



MOOD: communicative



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 **tacit**

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Some thoughts on communication

One of the strangest principles of quantum physics is the notion that an observer, on a quantum level, always interacts with the thing being observed. This principle has fueled all kinds of philosophical theories, and people have used it to construct ideas about how it's impossible for a person to observe any part of the world without changing it.

The world of particle physics is a bizarre place, and things don't behave according to the rules of the macroscopic world we live in. For example, a photon that's directed at a beam splitter can go off in one of two directions. In reality, the photon acts like it goes off in *both* directions, and continues in both directions simultaneously. This condition is called a superposition of states (<http://departments.colgate.edu/physics/research/Photon/intro.htm>). The photon continues going down both paths until it interacts with an observer somewhere, at which point the superposition collapses and the "phantom" photon that went the other way disappears as though it had never existed.

This effect is quite real; it can be measured and demonstrated in a lab. It's led philosophers to posit that the entire universe is a construction of understanding--that we create the universe we live in just by observing it.

Problem is, the philosophy is bunk. You see, in terms of quantum mechanics, the word "observer" has a very specific meaning. An "observer" is nothing more than "a thing whose state depends on the state of the thing being observed." If a photon in a superposition of states encounters an electron, and changes the electron's energy state, then the electron is an "observer."

Schrodinger's cat (<http://www.lassp.cornell.edu/ardlouis/dissipative/Schrcat.html>) would never work the way it does in the thought experiment. You can't put a cat into a half-alive and half-dead superposition of states...because the Geiger counter *is the observer* in this system! It's a thing whose state depends on the state of the thing being observed. The term "observer" does not mean "person looking at something;" a quantum "observer" need not be human, or sapient, or even alive at all!

But I didn't come here to talk about quantum physics. I came here to talk about communication.

Philosophers have been led astray by quantum physics because of a fundamental communication error. They see a word, they believe they understand that word, and they go on as if that word means what they think it means. But in the domain of quantum physics, the word "observer" has a very narrow meaning that's not the same as its ordinary, vernacular meaning. When we think "observer," we think "some guy standing there watching something"--but that's not what the physicist means at all.

Communication is a very tricky beast. On the one hand, human language and human communication is remarkably resilient. If I type a sentence containing non-standard English futzpahs, even if you have never seen or heard those futzpahs before, you can still glork their meaning from context. On the other hand, it can go horribly wrong in so many different ways, sometimes it's a bloody miracle anyone ever communicates with anyone else in the first place!

The simplest way for communication to go wrong is when one person uses a word in a way that the other person doesn't understand, or uses a familiar word in an unfamiliar way. Unchecked, this can lead to all sorts of difficulties:

ALICE: Can you do me a favor and pass the sweeper?

BOB: Sweeper? What the hell is a sweeper?

ALICE: The thing that vacuums the rug. You know, the vacuum cleaner.

BOB: Oh! Right. okay, here you go.

ALICE (angry): You never help me out around the house! You expect me to do everything! I ask you to do one thing and you won't do it!

BOB (confused): Huh? You asked me to pass the sweeper, and I gave you the vacuum cleaner! It's what you wanted, right?

ALICE: No, I asked you to vacuum for me. 'Pass the sweeper' means 'vacuum the rug.'

BOB: You asked me to pass the vacuum cleaner. When you say 'pass the salt,' I hand you the salt. When you say 'pass the plate,' I hand you the plate. So when you said 'pass the vacuum cleaner,' I assumed you wanted me to hand you the vacuum cleaner.

It pays to be very careful about the way you use language, and to make sure, before you get angry or emotionally invested in something, to make sure that you did, in fact, communicate the idea you thought you communicated.

The problem gets worse if one of the people involved already has an idea about what the other person has said, or is going to say, and has some kind of emotional or philosophical investment in that idea. For example, if Alice believes that Bob finds her ugly, Alice may see evidence of that belief in everything Bob says, even if Bob doesn't hold that belief at all:

ALICE: You said I was ugly before we went to the restaurant!

BOB: No, I didn't. I said I think the blue dress looks better on you than the red dress.

ALICE: But the blue dress covers more of my body than the red one! See, you think I'm ugly!

Compounding this problem is the fact that people can rarely remember word-for-word what was said to them five minutes ago (http://www.bcp.psych.ualberta.ca/~mike/Pearl_Street/Margin/OSHERSON/Vol3/Jonides.3.7.html); they remember only the gist of it, the meaning they got from the words. If the words were not understood, the erroneous meaning stays.

And just to add even more problems on top of the pile, an inference can be made on the basis of faulty logic. Relatively few people are good at logic; reason can be just as flawed as emotion, and logical errors can cause someone to get the wrong meaning even if the communication itself is fine.

ALICE: Bob thinks that I'm not good at relationships!

CINDY: Really? What did he say?

ALICE: He said that one indication of good relationship skills is a history of long-lasting relationships. But I haven't had any long-lasting relationships. So he must think I don't have good relationship skills!

(This particular fallacy is called "denying the antecedent" (<http://www.datanation.com/fallacies/deny.htm>), and it takes the form "In order for there to be fire, there must be oxygen; there is no fire in this room; therefore, there is no oxygen in this room." Its correlary, "affirming the consequent," is the same error from the opposite direction: "In order for there to be fire, there must be oxygen; there is oxygen in this room; therefore, there is fire in this room.")

A side effect of being emotionally invested in an idea can be that the person holding the idea doesn't do even basic fact-checking on information that confirms that idea; for example, if Alice believes that Bob is a bad person, and is extremely dedicated to the belief that Bob is a bad person, then when Cindy tells Alice "Did you hear? Bob got arrested for molesting his six-year-old daughter!" then Alice may forever form a lingering association between Bob and pedophilia *even if Alice knows that Bob has no children*. People who want to believe something about a person may tend to accept without question rumors or gossip about that person, even if they know intellectually that the rumors or gossip cannot possibly be true.

And it just keeps getting worse. All these problems assume that the people involved are communicating ideas or concepts which they already have in common. When two different people have totally dissimilar worldviews, the situation gets much worse. We fit our understanding of the world around us into a conceptual framework, and tend to take that conceptual framework for granted, without even ever questioning whether the framework is valid, universally applicable, or shared by the people around us.

ALICE: It's obvious that people with multiple romantic relationships can't possibly be committed, because 'commitment' means that you're dedicated to only one person. Someone who is not committed can't be trusted, because they have no commitment to you.

BOB: But what if someone is committed to more than one person?

ALICE: Impossible. That's a logical contradiction. 'Commitment' means 'dedicated to only one person.' You can't be dedicated to two people any more than you can divide a circle into three halves.

This same sort of reasoning can cause problems in communication when one person's words or ideas superficially resemble, but aren't the same as, a different set of words or ideas that the listener has already formed an opinion about; what'll happen is that the listener will assume that the words he's hearing carry

the same meaning as the words he's already heard, and react as if they had the same meaning, when in fact they don't.

ALICE: Jealousy is an internal emotional state. A person who says 'I am jealous' is making a statement about an internal feeling; you can not necessarily draw any conclusions about that person's circumstance just from that statement.

BOB: That's bullshit! Jealousy is not always caused by internal feelings; sometimes, a person might feel jealous because of something their partner has done. You're just trying to dodge responsibility for your actions, that's all.

ALICE: I didn't say anything about the causes of jealousy.

BOB: Yes you did! You're just repeating that tired old line that jealousy is all in someone's head and that person needs to just get over it already.

Often, you'll see several different forces at work screwing up communication at the same time. Witness, for example, the people who believe that Americans don't have to pay tax (<http://home.earthlink.net/~realbadger/vulture.htm>). They point to the fact that the United States has a "voluntary" tax system, erroneously thinking that "voluntary" means "something you don't have to do;" in the specific legal sense, "voluntary" means "you volunteer information to the government about the amount of tax you owe" (meaning that you make the calculations, then send the IRS the result of those calculations; in a non-voluntary system, the government calculates how much tax you owe, and sends you a bill). Furthermore, they're heavily emotionally--and financially--invested in the flawed understanding.

On the whole, I'm not entirely convinced communication ever really works at all, and I'm beginning to have my doubts about language.

TAGS: [linguistics](#), [philosophy](#), [science](#)



12 comments



July 15 2004, 15:44:38 UTC

CHECK [COLLAPSE](#)

(a) Hopefully, and realistically, enough people are dedicated to having true and real communication that they'll spend a bit of time discussing their respective idiolects, in an attempt to create synchronicity. I know that I use the word (ass-word, as I can't find a real one just yet) "interesting" different than others do. If I find, through context of conversation, that my convo partner has heard "wrong on a global sense", when I just meant "intriguing and thought-provoking", I'll make a point of correcting the misinterpretation.

(b) Those people who are reacting emotionally to different words are usually emotionally attached to how their words are defined. And that's perfectly okay. Language is how one expresses one's reality; it is 102% okay for, say, me to be upset over me saying [x] and \$person hearing [y], because not only do we have to find agreement-ground, I have to rethink an entire concept, and frankly, rethinking reality is a bit tiring sometimes.

(c) We gotta use something to communicate with each other, dude.



[July 15 2004, 16:23:29 UTC](#)

CHECK [COLLAPSE](#)

Damn, this one looks interesting. Haven't read it all yet, but a question in the meantime: Remember our exchange on extropianism? You wouldn't have the date for your post on hand? I've lost my link, and I believe it's my turn to reply.



[tacit](#)

[July 15 2004, 16:25:39 UTC](#)

CHECK [COLLAPSE](#)

Yep; that post is [right here](#).



[July 15 2004, 17:56:34 UTC](#)

CHECK [COLLAPSE](#)

The simplest way for communication to go wrong is when one person uses a word in a way that the other person doesn't understand, or uses a familiar word in an unfamiliar way.

It's at least as bad when it's not words but behavior. And I suspect that there's more agreement over the meanings of words than over the meanings of acts.



[22:03:24 UTC](#)

CHECK [COLLAPSE](#)

Holy fish sticks, Franklin! You may have just killed God.

No, really. The section of your post about quantum mechanics is directly pertinent to a posting that I've been puttering around about composing for some time now regarding the existence of God. In fact, your comments potentially knock a big honkin' hole in the best argument I've come up with to support His existence.

I'll have to ponder this more before coming to a final conclusion. More importantly, I guess now I should finish the post so you'll have at least a clue of what I'm rambling about! I'll be very interested in your input.

So my arch-nemesis may very well have struck the coup de grace to my entire religious framework. Typical. Oh well, at least I've got a nifty new icon to post with! :-)

[Re: communication](#)



[July 16 2004, 11:20:34 UTC](#)

CHECK [COLLAPSE](#)

Well, I've received suggestions from a few different people to read your journal. Due to time constraints, I generally resist doing so. But after  pointed to this, I felt moved to do so. Hi!



[April 13 2005, 20:18:45 UTC](#)

CHECK [COLLAPSE](#)

This read makes me happy about my habit of randomly reading things from people's memories section... :o)



May 4 2005, 04:53:51 UTC CHECK COLLAPSE

I was just pointed to this in regard to a relationship issue some friends of mine are experiencing. Very useful read on communication, indeed! Thanks!



June 14 2005, 18:03:06 UTC CHECK COLLAPSE

I shared the larger part of this with a couple of work mates. Interesting how we choose to hear what we wish to hear and relate it only to past experiences, rather than listen to the current conversation for it's own merit.

I like posts like this. It stimulates my mind.



January 4 2007, 23:18:47 UTC CHECK COLLAPSE

I was pointed towards this post from a friend of mine (talk about delayed reaction) but I really liked it. Well said. :)



tacit

January 14 2007, 19:30:31 UTC CHECK COLLAPSE

Thanks! I actually put it up on my Web site recently, too. :)



March 27 2010, 15:28:52 UTC CHECK COLLAPSE

Heh, and then you hang out w/folks who've been through Landmark and try to figure out how they're using common words w/new uncommon (to non-Landmarkians) definitions - fascinating when not utterly frustrating. :-)