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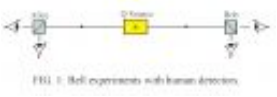
When humans become entangled

March 3rd, 2008 | by KFC |



Something curious is happening at Nicolas Gisin's lab at the University of Geneva. Gisin is a world expert in entanglement, the ghostly quantum phenomenon in which two or more particles become so deeply linked that they share the same existence, even when far apart.

Entanglement is now a routine resource in many labs: it can be generated, studied and even passed from one particle to another. It is usually measured using two detectors–Alice and Bob in the lingo of quantum physicists–which analyse pairs of incoming photons to see whether there is any spooky-action-at-a-distance, as a Einstein called it. In these so-called "Bell experiments", spooky action rules.

Given the amazing properties of entangled photons, it was never going to be long before curious postdocs pointed these photons on themselves, in the manner of Nobel Prize winning Barry Marshall who famously swallowed H Pylori bacteria to see if it gave him ulcers, or more fittingly like Jeff Goldblum in The Fly.

What would happen if two humans–let's call them Alf and Bess–replaced the lifeless Alice and Bob?

I guess most physicists would say that the process of observation in the eye is macroscopic, it involves large numbers of photons, and so any quantum effects would be drowned out.

Not so, reckons Gisin. It has long been known that the eye is sensitive enough to detect a mere handful of photons. He and a couple of pals, Nicolas Brunner and Cyril Branciard, have calculated that, were the eye a lifeless detector, it could be used to carry out the kind of Bell experiments described above.

"Thus entanglement could in principle be seen," conclude the group.

That's a loaded statement if ever there was one. It implies that two humans could become entangled, if only for a brief moment.

Unfortunately, there is no room in the paper to discuss what "mantanglement" would be like. How long would Alf and Bess be mantangled? For as long as entangled photons bombard their retinas or longer? What would Alf and Bess feel?

I wonder if Gisin, Brunner and Branciard already know the answer to these questions, and whether we'll be hearing some more interesting news from the Gisin lab in the months to come.

Ref: arxiv.org/abs/0802.0472: Can one see entanglement?

1. # 2 Responses to “When humans become entangled”

2. By **Zephir** on Mar 8, 2008 | Reply

   By Aether Wave Theory the entanglement and quantum memory are semi-classical effects, which can be observed easily in macroscopic conditions. They can be demonstrated for undulating droplets floating in low gravity conditions (i.e. like the oil droplets inside of lava lamp). The AWT can therefore serve as a mechanical approach for explanation of relativity and quantum mechanics phenomena. Note the another macroscopic demonstration of quantum phenomena in mechanical system:

   http://www.physorg.com/news78650511.html

   So, whenever you’ll split such undulating droplet into two halves by wire, the resulting parts will remain undulate at phase with respect to the center of their common mass. The resulting smaller dropplets will therefore remember the state of the original droplet in certain extent, so they can serve as a quantum memory. Such pair will create their own “local universe” by Everett interpretation. because it’s members are “entangled” at the distance - and as you can see, nothing “spooky” is on such entaglement, in fact.

   Note that even though you can combine the different droplet pairs with the same surface amplitude or even frequency, such reconnection will not restore the original surface wave, until the phase of the surface waves will not remain exactly the same - from this the quantum cryptography follows.

1. # 1 Trackback(s)

2. Mar 4, 2008: 道

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