

# Human Eye can instantaneously detect action at a distance

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An experiment conducted by Nicolas Gisin, the world leader in quantum entanglement, and his team has shown that it is possible to replace photon detectors with human eye in a Bell experiment and hence it is quite possible that entanglement can be seen or in other words, two human beings can get entangled. (Ref: [arxiv.org/abs/0802.0472](https://arxiv.org/abs/0802.0472): Can one see entanglement?)

Quantum entanglement is one of the most fascinating developments in physics that bamboozles philosophers as much as it does physicists. We do have ample evidences of quantum entanglement but we do not have any causal explanation for quantum non-locality.

The experiment conducted by the Nicolas Brunner, Cyril Branciard, and Nicolas Gisin; *Group of Applied Physics, University of Geneva, CH-1211 Geneva 4, Switzerland*; suggests that it may be possible to replace the photon detectors with human eye. In a paper referred above, the authors explain that an experiment to show quantum entanglement may not lead to a better understanding of the quantum non-locality; it still will be a fascinating experience.

The experiment shows that human eye can instantaneously detect spooky action at a distance or in other words, human eye can instantaneously detect action at a distance.

This experiment only confirms my observation in my book, 'Nature of Reality' that human eye can instantaneously detect action at a distance and that no apparent physical link is required between the observer and the observed. Moreover, I have also provided causal explanation for quantum non-locality. In this paper, I provide the conclusive evidences to support my observations and the findings of the experiment.

As pointed out by the authors of the paper quoted above, our present understanding is that rod cell in our eyes amplifies the signals through some chemical reactions when it absorbs a photon. Post-processing of these signals is performed on the group of signals coming from 20-100 rods and finally a signal is transmitted to the brain.

Obviously, we assume that our eyes need to absorb a photon to be able to see it and since light moves at a finite speed therefore we can never see an event as it occurs but can only see it after a delay depending on the distance between the observer and the observed.

Let us first ascertain the validity of these observations on the role light is supposed to play as a carrier of the information.

We assume that we are required to either absorb a photon emitted by a light source or photons reflected by an object to be able to see the object. If this premise is true then we shall be able to see the sun by merely looking up at the sky to absorb the photons emitted by the sun before they are reflected off any object. However, we do not see the sun unless we look directly at the sun. Obviously, mere act of absorbing the photons emitted by the sun does not ensure visibility of the sun.

If we are required to absorb a photon to be able to see it then we can see a photon only at one place and only for a very brief moment but we can sense a photon even when it is moving away from us.

More than one photon detector placed at different locations can simultaneously detect a single photon. Obviously, two detectors cannot absorb a single photon.

If we extend the double-slit experiment and make a slit each in the dark band as well as light band and peep through these slits alternatively then we shall see a substantial difference in the views from two slits but we find no difference in the two views except the difference because of change in angle. We can see plenty of light even from the dark band. This also proves that we can sense the light without having to absorb it.

When we shoot a laser beam into the water and watch the beam; we find that beam refracts when it enters water from air but then we shall see no effect of refraction once the beam enters the water. If we see the beam by absorbing the photons then we shall see a curved and not a straight beam because the photons from the beam must travel through the water and enter the glass and from glass to the air to be able to reach us and hence light shall refract twice. Since, we see a straight beam and not a curved beam therefore we can safely conclude that we can see the light wherever it is provided it is in the observational range of our eyes.

We also must understand that when we switch on a light source and keep an object at a distance in the path of the light then light from the light source will take time to reach the object but it does not mean that an observer placed at a distance will not be able to see light bulb illuminating without absorbing the photons.

This means that information can be communicated faster than light. To prove this point we can conduct a simple experiment.

We need a hi-speed camera, a mirror, and a light source (like a torch) to conduct this experiment. The setup is shown in the image.

Once the camera is rolling, we have to switch on the light source and then switch it off immediately.

We see two effects when we switch on the light source; the image of the light source in the mirror illuminates and the mirror illuminates too on receiving the light. The distance between the mirror and the light source depends on the fastest shutter speed and the

maximum frame rate of the camera. If shutter speed of the camera is 5 ns then we can keep the mirror at a distance of just over 1.5 meters. The mirror as well as the light source both shall be in the field-of-view of the camera.

If both the effects take place simultaneously after the illumination of the light source then we certainly cannot communicate FTL but if either of the effect takes place in the same frame as the lighting of the light source then we can communicate at speeds faster than light.

We also have to watch the effect produced when we switch off the light source. We must find out whether darkness moves progressively from the light source to the mirror or darkness sets in as soon as we switch off the light source or does darkness move from mirror to the light source.

How is it possible? Does instantaneous communication exist between other entities as well?

If instantaneous communication is not possible between the two entities and gravitational waves do not move faster than speed of light then any change in the position of a planet shall not cause an instantaneous change in the position of other planets in our solar system. However, all our calculations of planetary motions assume instantaneous communication of gravitational force between the planets and almost pin-point accuracy of our calculations conclusively proves that instantaneous communication exists between the planets in the solar system. We also find that all the stars of a galaxy; in fact, all the stars in a supercluster of galaxies move at the same velocity even though distance between the stars is several light years. Even superclusters of galaxies move as one unit even though positions of the galaxies within the superclusters is constantly changing and the distance between the galaxies is constantly increasing.

Obviously, instantaneous communication between constituents of a supercluster of galaxies exists and as all the constituents of galaxies move at the same velocity therefore we can safely conclude that instantaneous communication between all the constituents of the universe exists and that all the objects in the universe are entangled. One possible explanation is that any change in the communicating waves causes a change in the entire wave like we observe in case of a metal rod. When we pull or push the rod from one side then all the points of the rod move simultaneously irrespective of the length of the rod. The communicating strings may function in similar fashion.

Cosmic microwave Background Radiation also provides ample evidence to the fact that nature manages universe as one unit and that is possible only and only if an internal communication mechanism is at place amongst all the constituents of the universe.

What makes entanglement possible or in other words, what is the causal explanation for the quantum non-locality?

Let us first determine the reality of all objects?

Objects can only be considered as space-time structures. Whatever be the nature of fundamental constituents of the matter and the space, all our theories on the structural aspects of the universe ultimately reduce an object to being a space-time structure. We may term the space-time structures as ripples in the field or we may term the objects as pockets where field density varies, or we may may term the objects as the pockets where supersymmetry of the space is violated but ultimately, all objects are nothing but space-time structure.

CMBR shows that these pockets may work independently of each other but they still function as one unit with a sound internal communication mechanism in place. It is like different branches of an organization working independently of each other and yet these branches function as one unit with an internal communication network in place.

This analysis shows that entanglement is actually wrong term because it suggests that two objects can exist in the universe without any physical link between them. This is just not possible with the model of space that we have or with any other feasible model of space. The relationship between different objects in the universe and the universe is same as the relationship between parts of our body and body itself. Parts must function as one unit for body to function effectively.

If we believe in existence of fundamental laws; laws that are space, time and observer independent i.e. the laws that remain same at all coordinates of space at all times irrespective of the method of observation and the properties of observers and if we believe that all the quantities are conserved in the universe then we have to believe that an internal communication network is in place in the universe and that information is communicated instantly.

Non-contact thermometers function and provide accurate and instantaneous information to us about an object irrespective of its distance from us. Non-contact thermometer apparently have no physical link to make the measurement of the temperature and yet provide more accurate information than the contact thermometers (even though both provide different types of information).

If instantaneous communication is not possible then the big bang theory and standard model of cosmology must collapse and our interpretation of how universe came into being also has to be wrong because if the temperature of the CMBR at a coordinate of space 13 billion light years is same as the temperature of CMBR just outside the atmosphere of the earth then it means that CMBR is not cooling and that temperature of the universe soon after the big bang was same as it is today and has not changed at all since the big bang.

Our analysis shows that light is not the carrier of the information but is information and that we can detect a photon without absorbing it. It also means that all objects are already in entangled state. In fact, entanglement is the wrong term to use because all objects are just different parts of the same structure much in the same manner as hands, legs, nose,

ears, and eyes and other parts are nothing but the parts of our body and cannot have any meaningful existence as independent entities.

The parts of our body are recognizable only because of the variations in the density of the structure as the basic building blocks of all parts are more or less same; similarly, different objects in the universe can only be explained through the difference in the density of the basic building blocks of the universe that take the shape and form of atoms of at least one of the 113 odd elements and then these elements combine in different ways to create further distinction.

There is no other way we can explain the structural and functional aspects of the universe.

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