

How to relate to reality, including the absolute nature of existence compared to the relative nature of measurement and observation Georgina Woodward May 2023

Abstract

Providing an overview of the metaphysical background needed to solve a number of issues within physics. In particular an absolute external Object reality in which relative observation products (Image reality) are generated. Allowing quantum physics results as found, without the need to accept faster than light communication, non locality or retro-causality for explanation. As well as being relevant to the measurement problem.

The paper starts by describing what is Object reality and explaining how the term observer is used here. Followed by describing Image reality products and effects on their appearance.

A blind man and elephant analogy is given likening the scenario to particle testing.

Device generated and phenomenal (experienced) reality are considered, touching on issues pertinent to consciousness.

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Material Object Reality.

What do we mean by that? It is observer independent, ie. doesn't have to be sensed or measured to exist. So, it is not limited by being relative to an observer or few observers. It is the source of all relative perceptions or measurements of it via 'sensory' input processing (Whether inorganic device or organism observer).

What is meant here by an observer? Something that receives sensory stimulus input reflected or emitted by an existing object in Object reality, the external environment, and processes it into a measurement or observation product that can be called Image reality, or is an element of Image reality, and is different from the input. An observer as described here can be called (or contains) a reality interface. *The observer has a viewpoint*, its unique position and location, affecting what portion of the sensory stimuli in the environment can possibly be received.

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An element of Object reality exists and has orientation and spatial relations to other existing things without these being necessarily known by an observer or measurement.

Here we come across a limitation of description.

A stick material object, for example, has a relative spatial separation, which may be unmeasured, from each object in proximity without the individual separations having an attributed length (the result of measurement with standard scale). This being so, it has a position within the pattern of all existing, without the need for the position to be defined within a co-ordinate system and without need for measurements. Measurements that would allow understanding and communication of a where it is. It, the stick, for example, also has spatially extended existence without its length being measured.

The relative context is needed first before, 'measured or observed this way' is decided.

Prior to measurement or observation It doesn't have a singular (relative) state that has been isolated from the absolute existence, to be identified nor quantified.

Image reality, Product

Input stimuli activate a series of events leading to the generation of a product or products. Formed by an inorganic or organic observer. The visual appearance of the relative observation product will depend on how the stimuli are received . I.e the relative positions of observer organism or device relative to the incoming stimuli. Which is also the relative position of observer and *source* of the stimuli at emission or reflection of the stimulus. Appearance of the observation product may be affected by what happens to the stimuli during transmission from source to observer. The initial pathway could have been altered eg by gravitational lensing, refraction, or reflection from a mirror.

Usually the limited relative state of the observation product will not be statistically independent of the condition of the absolute unseen material source of the stimuli ie its relations to the rest of material existence. How it seems to be depends on how it is prior to observation. Object permanence applies. Being unseen does not mean the object has no absolute orientation, location, state of motion or energy. It does mean the observer has not yet generated a relative observation product with a singular relative measured state.

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What is measured and subsequently found to be is not just random. It depends *both* on ‘how you look’ and what is there. I.e the relation between observed and observer or measuring apparatus that is established, and the existing absolute condition of the observed entity. Uni-temporal time in Object reality is posited, giving clear causality.

Analogy Elephant and blind man. In this imagined scenario the man is set the task of feeling just one part of the elephant. Perhaps it is untamed and upon being felt rushes away into the forest.

The man is free to choose which part of elephant to feel.

What the elephant *seems to be* varies according to which part is felt. Because the elephant is more than a singular, ‘investigated this way’, impression can describe; No matter how many untame elephants and blind men are used, the outcomes found always relate to the existing condition of the elephant felt and the way it is investigated.

A random outcome or outcome that doesn’t pertain to the existing external reality investigated doesn’t happen. (assuming an observer device or organism that is not malfunctioning) The blind man does not for example touch an ear and feel (sensation) a rope-like tail.

Order of happening: Reflection or emission of stimuli from source in Object reality (or particle input to apparatus)-Sensory data input (or particle response outcome) -processing-Product perception.

Sequential Uni-temporal, unitary and unidirectional passage of time due the change happening within the entire pattern of existence is posited. There is as a result clear unambiguous causality. Generation of the measurement product or observation happens after input of sensory stimuli from the environment to the observer (or particle response outcome, following particle input to apparatus).

The product is limited, and relative. It relates to the relation between the material object source and observer.

An experimenter is free to choose the orientation of apparatus used to investigate a particle.

Investigated a particular way it gives a singular measurement product. Returning to the analogy:

Selecting an ear rather than tail, at once the elephant rushes away and is gone. There can be no tail feeling. There can be no testing of a different experimental test of the particle because it is disturbed by the first test and no longer in the same condition.

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Taking into account the absolute nature of observer independent Object reality does not itself curtail the freedom of the experimenter to select the experiment that is conducted. Avoiding an objection that is used against superdeterminism; if everything is predetermined so must be the choices of experimenters, negating the possibility of free will.

It addresses the measurement problem. Superposition postulated by quantum mechanics is representation-ally standing in for an absolute condition. At measurement there is transition of thought from the unknown absolute condition of the absolute material source to the known limited relative state product. There can be violation of Bell's inequalities without having to accept that true 'entanglement' is a feature of external, environmental reality or that retro-causality happens or that faster than light communication happens or having to relinquish local realism.

The outcome is always correlated with the test particle in particle experiments. The singular relative outcome state is generated as the experiment is conducted it does not exist alone before measurement. The observer is not generating an (absolute) element of Object reality but is generating a relative (to this way of measuring) measurement product. The object is not coming into being in the measured state, but the singular measured state is being identified out of the possibilities enabled by the already existing absolute external reality. (The descriptions used for the positioning of apparatus or observer must be consistent, have the same meaning, throughout the experiment.)

The existing environment, Object reality in which humans bodily exist, and in which physics and chemistry is happening is not an observation product. It isn't spread over time, it is absolute not 3 or 3+1D. Astronomy produces and studies observation products. They have a virtual time dimension because of the transmission time taken by the stimuli input and used for their generation. The greater the duration of transmission, the less current the image or other output.

It may be helpful to separate experience/perception (phenomenal reality) from device generated output. That there is both demonstrates that phenomenal reality is not the consequence of psychology alone, fabricated by the mind alone.

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More about device generated output

Observation products that are device generated are related to external input but also the functioning of the device. The precise output depends on the device type and model and its functioning. Processing can in some cases generate products that can be utilized by human senses although the sensory stimuli input to the device are not. For example colouring of what would otherwise be invisible in production of astronomical images, and lowering the pitch of bat calls when reproduced to make them audible. Consider a photo of a cat under a tree. The photographic image is not a material cat under a material tree but an arrangement of pigment on paper. The space occupied by the photograph of cat and tree occupies is different from the material cat and tree. *The material cat and tree are absolute objects.* The 2 spatial dimensions of the photo records a likeness pertaining to a particular time ie configuration of material existence.

Evidence of source. How it looks depends on the camera location and time the photo. was taken. Which determines what electromagnetic radiation, available in the external environment, was input.

Phenomenal 'reality'

Relative perception of the absolute objects in the external environment is described with 3 dimensions or 3+1 if time is included. The seen visual experience occupies virtual space (time). It is a likeness of, but not itself the external environment.

Phenomenal 'reality' is not just directly related to external input. It also depends on structure and function of the neural network and sense organs receiving and being activated, hence also pharmacological effects and psychological effects. State of mind, wakefulness, attention, etc..

Perception need not be reality as perceived by others, therefore it is strictly a personal reality unless corroborated. Corroboration is evidence of an external source of the perception, apprehended by both, as both observers formed similar products. A similar viewpoint is required for this. Both must receive input that came from the same source. Usually it is assumed that the perceived reality does not need checking for corroboration of different observers. Mistakes, imagination, daydreaming, inattention, illness/malfunction, psychosis do sometimes occur.

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Relevant to the idea of qualia. The quality of experience is not independent of the internal condition of the experiencer. Which is also not independent of the context of stimulus receipt. The duration ,how intense and how much attention is taken up by the phenomenon is also important, not just what kind of experience.

Placebo- effectiveness affected by psychological factors which may be in turn influencing function of the body. Factors unrelated to pharmacology can have an effect such as color of product, packaging, length of consultation.

Priming- more likely to notice something if primed, that is recently shown or encountering something in particular.

Phenomenal reality experienced as vision is a virtual space-time not the same space as the material source. eg. a material house of dimension x^3 seen from a distance. The tiny distant house likeness is generated by observer after receipt and processing of reflected electromagnetic radiation. Material source house has current unitemporal existence in Object reality. The material house is full-sized and the source of all observer generated likenesses of it formed using received sensory input.

The experienced product can be due to a happening such as transient neural activity within CNS. Visual experience with perception of it correlated with brain activity of visual cortex and memory associated hypothalamus would fit the bill and or a change of material existence such as release of a hormone eg. adrenaline or neuro-chemical eg. dopamine providing feelings.

An overview of the proposed metaphysical background has been set out. Including explanation of how relative observation products are formed. Additional consideration of device generated and phenomenal (experienced) reality has been considered, touching on issues pertinent to consciousness.