

# **What is Consciousness & How it Works**

## **Conquest of the Last un-charted Frontier in Biology**

By Dr. Alan Rosen

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- 1. Consciousness is the display on a sensory monitoring screen located in the human brain.**
- 2. The human brain is a computer-controller that controls the human body and limbs, the operation of the 6-sensors (tactile, visual, auditory, olfactory, gustatory and vestibular), and the internal human organs. But where is the display monitor? (A human-like computer called a Relational Robotic Controller (RRC) was discovered and patented by MCon Inc.)**
- 3. The display monitor is in the human brain. Its design was discovered and patented by MCon Inc. In a RRC-brain, it is called a “self location and identification coordinate frame,” or an Electronic Correlate of Consciousness (ECC)-circuit”; In the human brain it is called a Neural Correlate of Consciousness (NCC)-circuit.**
- 4. Sensory data, from both external and internal sensors, if and when they fall on the monitoring screen (the ECC-circuit), are converted into a “consciousness phenomena” or a “qualia display, or a subjective experience correlated with the type of sensory signal that falls on the screen:**

**\* Tactile signals that are transmitted to the monitoring screen are converted to the pleasure feel of massage or the painful feel of a bruise.**

**\*Visual signals that fall on the rods and cones of the retina of the eye are transmitted to the monitoring screen and converted to a conscious display of dots of colorful light. The retinotopic organization of the retinal rods and cones or CCD-arrays in the robot, are maintained in the brain so as to form a 3-dimensiional image in the brain (that is a high fidelity conscious-representation of the objects that gave rise to that image).**

**\*Auditory signals that are transmitted to the auditory-ECC-monitoring screen may be converted to the conscious representation of an orchestral musical crescendo rendition or the tearful verbal presentation of a sad poem.**

**\* In humans, the signals arising from the stimulation of sexual sensors, if they are transmitted to the “self”-monitoring screen, may be converted into a conscious display of an ecstatic feeling generally referred to as a sexual orgasm.**

5. **This is the first time in the history of the biological sciences that a ECC-screen circuit has been discovered that converts physically-measurable signals (in the physical reality domain), into conscious qualia-like emotional experiences (immeasurable phenomena that may be categorized to be in the consciousness domain. The consciousness domain includes dreams, love, anger, hate, beliefs, etc. as well as all the measurable signals in the physical reality domain). Note that it is physically impossible for a circuit operating with physical signals inputs to have a non-physical signal output (as they say-garbage in results in garbage out). Therefor MCon Inc. has hypothesized a theory that the existence and formation of the consciousness-qualia phenomena is a biological-scientific law of universal consciousness for all sentient organisms or robots.**
  
6. **What role does the NCC-display circuit and the qualia conscious-emotional display itself play in the scientific study of human behavior?**
  - a) **The subjective consciousness-qualia data displayed on the monitoring screen, is the only data that the organism is aware of, or can make ‘use of’ to enhance its survival in its environmental niche. Note that all “thinking”-data associated with the physical reality domain knowledge, is displayed on that same screen**
  - b) **The qualia-emotion itself is both a motivating and a prioritizing factor in human behavior:**

**Motivating factors: qualia-hunger drives the organism to search and devour food. Feeling cold or warm drives the organism to seek shelter. Male/female smells and appearances may motivate organism to mate.**

**Prioritizing factor: The qualia-emotion is a prioritizing factor that lets us select at any given moment what we choose to do. For example “fear” leads to a decision of whether we fight or flight or linger on to get more data.**

7. **The motivational system in the human brain: The discovery of the qualia phenomena acting as the motivational system for human behavior, closes the functional loop between the voluntary nervous system, the involuntary autonomic system and the motivational system in the human brain. We now know functionally how the mind, brain, and body and limbs work together to explain our total behavior patters. We are generally not aware of the function and operation of our involuntary organic system, unless some sensor sends a signal to our monitoring ECC- display screen.**
  
8. **Integration of physics and metaphysics. We now know that the physical reality domain or the objective scientific domain defined by mathematical manipulation of subjectively deduced parameters, can never explain all the conscious phenomena present in the consciousness domain. Values, ethics, morals, religious beliefs and superstitions, all members of the consciousness domain, play an important role in the life and behavior of humans, and to**

the degree that they do not conflict with data deduced in the physical reality domain, they remain an important field of statistical studies that may be totally independent of the objective physical reality domain.

9. MCon has designed and obtained patents (see [www.MCon.org](http://www.MCon.org)) on a human-like verbally communicative, highly intelligent humanoid robot. The Auditory RRC-Humanoid Robot is designed with a controller that allows the robot to be programmed with subjective Artificial Intelligence (AI). The AI is subjective because it is related to the 'self' of the Robot. The 'self' is a self-location and identification coordinate frame that is the centralized repository of all the data learned by the Robot. The controller also gives the robot a volitional (free will) capability, an experiential capability to visually "see," verbally "hear," and intelligently "talk," and a capability to record and remember all its subjective experiences.
10. This human-like robotic machine is a perfect vehicle for the conduct of a Turing test of consciousness. We prove the existence of the consciousness phenomenon within the robot's controller-brain, by a Turing-like test; namely we ask the robot to recount its conscious-subjective experiences and compare its response to human responses (humans who were exposed to the same experiences). Note that, as Francis Crick postulated, if the robot 'sees' the same colorful external world as humans, then the robot is, with high probability, visually conscious.
11. The same response obtained from the volitional robot and from humans may prove (statistically) that the robotic sensations are equivalent to the conscious experiences of humans. Furthermore, the robotic design of the Electronic Correlate of Consciousness (ECC)-circuit, designed into the robot, may be functionally identical to the hypothesized Neuronal Correlate of Consciousness (NCC)-circuit in the human brain.
12. The discovery of the design of the NCC-circuit, and the design of conscious-awareness into a highly intelligent humanoid robot leads to two innovative breakthroughs: a) In biology, the role that the Consciousness Mechanism (CM) plays in the study of 'human emotions,' 'human motivation', and human 'learning-education.' And b) a potential revolution in the field of commercial robotics.
13. Revolution in the field of commercial robotics: The Auditory RRC-Humanoid Robot is a 'conscious android machine' with a human-like body and brain, that feels pleasure and pain, can see, hear and talk like a human, and evokes the empathy one feels for a household pet or a 'living child.' These robots are generally designed and trained to an Artificial Intelligence (AI) level of a human High School graduate. The robot is a 'selfie' android, in the sense that it has a self identity, and all its 'life-experiences' are gained and remembered relative to the 'self-circuit within the controller. When

**commercialized (mass produced) the units will be sold at under \$100,000 per unit. A proposal to build a prototype robot is shown at [www.mcon.org](http://www.mcon.org).**