

EPOCHS OF CONSCIOUSNESS

1.

Preconsciousness is the ability to *respond* to environmental stimuli.

Preconsciousness originated in self-replicating organisms about 3.5 billion years ago.

Archea, bacteria (prokaryotes, eukaryotes), fungi, and plants are organisms which are pre-conscious.

Preconsciousness includes:

sensitivity to change (detection)

response to change (behavior)

adaptation by means of genetic mutation

2.

Consciousness is the ability to receive and store environmental stimuli, and to perform an *intentional* action based on the data.

Consciousness involves *learning*, which is the ability to save and recall information, and to *develop new behavior* in response to environmental change.

Consciousness occurred in animals around 600 million years ago. Animals were the first creatures to *transduce stimuli* by means of nerve cells.

Most animals are conscious.

Consciousness is defined by a variety of characteristics, including:

nerve cells

emotional states (fight or flight, fear, courage, timidity, vengeance)

sensory tracking

memory

attention

synchronous brain timing

perceptual integration

REM sleep

intentionality (an emotion that drives a voluntary action)

pattern recognition

learning

error correction

exploration

signaling

mimicry

courtship

grouping (schools, swarms, flocks, herds, packs, communities)

synchronous behavior

social exchange (alliances, rituals, contracts)

3.

Primate consciousness forms a bridge between consciousness and self-consciousness. Apes and early hominids were *generalists* able to adapt to a wide variety of specialized niches. With the evolution of bipedal locomotion and opposable thumbs, primates developed long-range mobility, local flexibility, and the use of tools. These characteristics, along with the close association of kin, and a mixture of aggressive and cooperative behavior led to a more social form of consciousness.

Primate consciousness originated with the appearance of early hominids about 4.4 million years ago.

Primates have evolved many of the same characteristics of self-consciousness as humans, with the exception of symbolic representation and syntactical language.

Primate consciousness includes all aspects of consciousness with the addition of:

self-recognition

sign language

symbol manipulation

expanded memory

curiosity (the desire to know or learn)

Many of the same characteristics that apply to primates may also apply to dolphins, or to other complex mammals.

4.

Late **hominid consciousness** is an extension of primate consciousness. Late hominid consciousness evolved in *Homo habilis* about 2.4 million years ago, and in *Homo erectus* 1.8 million years ago. Late hominid consciousness lasted until 300 thousand years ago with the descent of archaic *Homo sapiens*.

The brain capacity of *Homo habilis* was larger than that of earlier hominids. In *Homo habilis*, the coevolution of brain and dexterous hand led to primitive tool making, hunting and gathering, and division of labor. Habiline consciousness included mental sequencing of events and perhaps primitive use of language in the form of individual sound and symbol sequencing.

Homo erectus was the first hominid to appear in different parts of the world, specifically in Africa, Europe, Asia and the Middle East. With another increase in brain size came sophisticated tool making and intricate social relationships.

Homo erectus descended to archaic *Homo sapiens* 300 thousand years ago and to modern *Homo sapiens* about 100 thousand years ago. During this period, *Homo sapiens* evolved increased brain size, a variety of stone tool making and use, a growing capacity for language, and complexity in the rules of kinship, taboo, obligation, and social standing.

5.

Self-consciousness is the ability to *symbolically represent* the environment, and oneself. It is the ability to *think, predict* and *invent*.

Self-consciousness requires a priori functions of *symbolic representation, syntactical language, and expanded long-term memory*.

Self-consciousness originated in *Homo sapiens sapiens* about 50 thousand years ago.

Homo sapiens sapiens is the only known species which is self-conscious.

Self-consciousness includes:

symbolic representation
syntactical language
expanded long-term memory
complex emotional states
reasoning and logic

metaphor and analogy
symmetrical thinking (functional opposites, dichotomies)
inquiry
the capacity for spirituality
formation of new ideas
complex problem resolution (insight)
*long-term planning (creating alternative future scenarios, a
complex form of intentionality)*
*intelligence (generalizing, categorization, aptitudes for specialized
learning)*
creativity (integrated thinking, context shifts, imagination)
prediction
personal exchange (conversation, gestures, cues)
high levels of cooperation and altruism
morality
empathy
elaborate forms of reciprocity (gift-giving)
*cultural exchange (myth and ritual including religion, history and
humanities including the arts, science and technology)*
*distal storage (visual and time-based art, books, recorded music,
computer network, CD ROM)*

6.

Communal consciousness is group identity and awareness, which is characterized by a shared purpose.

Specific elements of communal consciousness include: signaling, mimicry, courtship, grouping, synchronous behavior, social exchange, cooperation, altruism, empathy, reciprocity, cultural exchange, and distal storage.

Communal consciousness applies to all other categories of consciousness.

7.

Superconsciousness is consciousness of the future.

Superconsciousness may result from the evolution of self-consciousness, including the transfer of self-consciousness from human beings to human-made systems.

The evolution of self-consciousness to superconsciousness may lead to the creation of a new species.

A new species which is super-conscious may evolve from:

*a symbiotic relationship between human and machine
the genetic modification of an existing brain/mind (leading to a
more complex self-consciousness)*

*a first-generation genetically engineered brain/mind
a machine intelligent brain/mind (robot or supercomputer)*

A superconscious brain/mind might include:

*enhanced sensory spectra
high-resolution sensory tracking
optimal selective memory
eidetic sensory memory
superspeed information processing
maximum perceptual integration
emotional intelligence
heightened spirituality
high-speed conflict resolution
superluminal thought decoder
optimization keys to discovery
high-level prediction capacity
comprehensive self-cognizance*

In addition, large interactive systems on the scale of planets, stars or galaxies may evolve, or may have evolved, a form of *communal* superconsciousness characterized by a grand network of symbiotic interconnections on a scale too sizeable for humans to apprehend.