New Theory

Unertan Syndrome

Quadrupedality, Primitive Language, and Severe Mental Retardation

A New Theory on the Evolution of Human Mind

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Abstract
The recently discovered "UNERTAN SYNDROME" consists of quadrupedal gait, severe mental retardation, and primitive language. This syndrome can be considered as devolution of human being, throwing a light into the transition from quadrupedality to bipedality with co-evolution of human mind. The genetic nature of this syndrome supports the punctuated evolution during transition from quadrupedality to bipedality. In light of Tan's psychomotor theory, accentuating the major role of the motor system in human mind, a new theory was suggested for the human evolution. Namely, the unique behavioral trait of man, the emergence of the habitual bipedality with Homo erectus (1.6 million and 250.000 tears ago) may be coupled with a resistive mind, which forced man to stand up against the gravitational forces with consequent success in tool making and hunting, using free hands for survival. The second stage in the evolution of modern human beings may be coupled with the emergence of language (circa 40.000 years ago), playing a major role in the origins of human mind.
Key Words: evolution, quadrupedality, mind, motor system, extensor muscle, human

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ÿ Please see **VIDEO** - mpg format (4483 KB)

What Is Unertan Syndrome?

I have recently discovered a new syndrome (Tan, 2005b), which consisted of quadrupedal gait, severe mental retardation with disordered conscious experience, and primitive language. Since it is not yet published, I will briefly describe it. The children exhibiting this syndrome originated from a family having 19 children, five of which (14 to 32 years in age) walked on two palms and two feet, with extended legs (see the video clip). They could stand up, but only for a short time, with flexed knees and heads. The pedigree indicated that this disorder can be related to an autosomal recessive inheritance.

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The patients had a rather primitive language, i.e., they spoke to each other using their own language, using only a few hundred words, which could be partly understand by mother and father. They were mentally retarded; they could not count from one to ten. They were not aware of time and space. For instance, they did not know where they live (which country, which village, which city). They were unaware of year, season, day, and time. Otherwise, they had quite strong legs and arms.

Upon physical examination, thoracal scoliosis was present. Upon neurological examination, the cranial nerves were intact, muscle tonus and tendon reflexes were mildly decreased; they had no extrapyramidal signs and symptoms. There was bilateral dysmetria and dysdiadochokinesis. There was no muscle weakness and sensory loss; no contractures were observed. Cranial magnetic imaging revealed mild cerebral and cerebellar atrophy.

The whole-body CT was normal.

The "Mini Mental State Test", standardized for uneducated Turkish people, was used to assess the orientation (date and location), registration (immediate recall of three words), attention, calculation (count from one to ten), recall (three items), language (name a few items, repeat a sentence), drawing a watch, and folding a paper. The highest score was 30, but they had zero.

The sitting posture was rather similar to an ape. Namely, they could not held their heads upright; the heads were flexed forward with their skulls. They could not raise their heads to look forward. This head posture with flexed skull was rather similar to the head posture of our closest relatives, like chimpanzees.

The quadrupedal children occasionally stood up for a short time. However, this was not a fully erect position. The head and knees were flexed during occasional standings, similar to chimpanzees. The quadrupedal gait was similar to diagonal walking seen in many animals, like dogs, horses, and chimpanzees.

The walking pattern of these quadrupeds was similar to diagonal walking seen in many animals, such as dogs, horses, chimpanzees, etc. Namely, the feet at diagonal ends of the body strike the ground together in the diagonal gait. The balance and support are maintained, for instance, by the left foot-right hand while the left hand-right leg are suspended, and then opposite diagonal starts for further walking action. Similar to most primates, the patients habitually used diagonal sequence of footfall pattern, in which the footfall of a foot was followed by that of a contralateral hand. They exerted nearly equal weights to the palms and feet during walking, as, measured by four balances placed under two palms and two feet.

They could walk fairly fast using their strong legs, without any imbalances and ataxic movements.

Relations to Evolution of Human Mind

"UNERTAN SYNDROME", as a genetic disorder, seems to exhibit a human devolution, which may provide us with some important clues about the transition from quadrupedality to bipedality, along with the evolution of human mind. It is indeed generally accepted that the most important event in human evolution is the transition from the habitual quadrupedal gait to the habitual bipedal gait, i.e., the acquisition of the habitual erect posture, freeing the hands for skilled movements, such as throwing, manufacturing tolls, and other skilled hand movements.

With regard to the evolution of the human mind, we can distinguish two important events in the human history, since splitting from our common ancestor -probably 6 to 8 million years ago-which human beings share with anthropoids. The first stage started with Homo erectus (between 1.5 million and 400.000 years ago), i.e. with the habitual bipedal gait. The individuals with "UNERTAN SYNDROME" may be considered as a live model for the quadrupedal walking pattern. The second stage started with the emergence of language approximately 40.000 years ago.

As mentioned above, the transformation from quadrupedality to bipedality, i.e., the ability to walk on two legs, is the most important stage in human evolution. The habitual bipedal gait is considered as the most important first step predating the other uniquely human traits, such as high intelligence, articulated speech, and conscious experience. The individuals with "UNERTAN SYNDROME" had primitive forms of all these features, providing us some clues about the evolution of human mind. The genetic nature of this syndrome (genetic mutation) is consistent with theories of punctuated evolution, contrary to the slowly occurring gradual evolution.

Darwin believed that over long time periods the human mind progressively developed out of animal origins. That is, Darwin himself was a strong proponent of the gradual evolution, also for the evolutionary nature of the human mind. He stated in his first transmutation notebook: "if all men were dead, monkeys make men, -men make angles". In other words, Darwin believed on a cognitive continuity between men and animals. In fact, the evolutionary psychology is inspired by the work of Charles Darwin, who applied the natural selection to the mind. According to Darwin, all living species aroused as a result of progressively occurring random changes, which are adaptive, that is, they increase an individual's chance of surviving, and passing from generation to generation. That is, the human mind including language, intelligence, memory, creativity, and conscious experience all evolved because of their adaptive fitness, promoting survival and propagation of human beings.

Altogether, similar to the biological evolution in general, the evolution of the human mind is also believed to be due to adaptation to the environment. In this context, there are different conceptions about how the environment (adaptation) should be considered for the evolution of the human mind. There must, however, be some driving forces directing the evolution of the human mind towards its present state. A new hypothesis in this respect is especially interesting. Namely, Yunes (2005) recently discussed the evolution of the human mind, especially with respect to an ontological interpretation of the reality of the quantum world: self organization of dynamic complex systems of living beings, the evolution of the human mind being guided by the information existing in the environment and its own information. This hypothesis apparently deals with randomness and unpredictability in quantum physics. With regard to the reality of the quantum, the well-known physicist A. Wheeler (Wheeler and Ford, 1998) states "I suggest that we may never understand this strange thing, the quantum, until we understand how information may underlie reality. Information may not be just what we learn about the world. It may be what makes the world".

A New Theory on the Evolution of Human Mind

Apparently, the evolution of the human mind is directly related to the evolution of the human being, whose most important unique characteristic is the habitual bipedality in standing and walking. Therefore, Homo erectus can be considered as the first man exhibiting the most important human characteristics, habitual upright posture and bipedality, with free hands ready for skilled manual activities. Homo erectus lived between 1.6 million and 250.000 years ago, but had only an incomplete upright posture. His erect position was more or less similar to apes` erect posture, with lightly flexed head and knees as well as long arms. Nevertheless, we see in Homo erectus the first emergent properties of the human mind: resistance against gravitation in addition to a primitive form of human language (protolanguage).

Homo erectus is believed to have evolved from Homo habilis in Africa, the first member of the genus Homo. Using their hands freed from earth's gravitation, the erect man could make tools from stone and wood and use fire. Homo erectus dispersed into Asia 1.3 million years ago and into Europe 400.000 years ago.

Homo erectus is not Homo habilis, which disappeared before the emergence of Homo erectus. UNERTAN Syndrome suggests that the erect posture of our ancestors may have been occurred by a punctuated evolution, as a result of a mutation in a single gene or in a gene pool. It is reasonable to assume that there may be a gene for bipedality or a gene pool for additional human characteristics such as articulated speech, high intelligence, and conscious experience. So, a special gene or a gene pool may be responsible for the appearance of man having a mind, which resisted against the gravitational forces. This is the resistive human mind.

The system responsible for the upright posture is the extensor motor system, which consists of the skeletal muscles holding man upright against the earth's gravitational forces.

My hypothesis is that the evolution of man started with a sudden increase in the activity of the extensor motor system. According to the Psychomotor Theory (see Tan, 2005a), mind is a by-product of the motor system. In other words, mind is an emergent property of the motor system. So, I argue that the mind of the extensor motor system showed a strong resistance against everything for the survival of the newly erected human beings. The most important disadvantageous factor, the gravitational force, was abandoned by the newly evolved human mind using the extensor motor system.

So, one can state that Homo erectus exhibited the first clues of human mind. As a result of the continues activity of the resistive human mind, the modern man is exploring the depths of the universe. So according to my new theory on the evolution of man and his mind, human evolution may be a result of punctuated evolution, which caused an increase in the activity of the extensor motor system, helping man to stand up and walk on two feet. On the hand, the resistive human mind, i.e., intelligent struggle for survival in Darwin's terms, was so strong, it forced man to make important discoveries in tool making and hunting in addition to gain a habitual walking pattern using two feet instead of four.

Within the second stage of human evolution, as recently as 40.000 years ago, we encounter the emergence of human language, i.e., the evolution of syntax, probably due to a mutation affecting the human brain. According to Psychomotor theory (Tan, 2005a), the human mind is an emergent property of the motor system expressed by human language.

Therefore, it can be assumed that the human mind evolved with human language at the same time, as a by-product of human language. There would be no human mind without human language.

Altogether, the human mind first appeared in Homo erectus, as an emergent property of the suddenly increased activity of the extensor motor system, responsible for the upright posture and bipedal walking. The first accomplishment of the first human mind with resistive properties was to force man to resist against the gravitational forces, standing up to free hands for a more developed hand skill. This was the first step in the evolution of the human mind (1.5 million years ago). Then Homo erectus disappeared. The second jump in the evolution of the human mind started with acquisition of language approximately 40.000 years ago, due to a mutation affecting the brain. The motor system with its input-output interactions for the human's articulated speech with syntax may be the origin of the mind of modern man. So, the descent of man is closely related to evolution of motor system, the human mind being a by-product of this development (see the Psychomotor Theory, Tan, 2005a).

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