

Discovery of Unertan Syndrome and Reverse Evolution: As An "Aha!" Experience

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For over 45 years I have been working on the motor system of cats (1960-1980) and humans (1980-2008) (see *My Scientific Odyssey* in Tan, 2004). My favorite motor system has always been the extensor motor system, responsible for upright posture.

My scientific work has concerned the motor system since 1960, especially the extensor muscles in relation to the human mind, on both philosophical and experimental grounds. My own mind has been continually scanning these topics, day and night. In fact, the aim of all of my scientific endeavors has been directed toward understanding man.

I frequently experience sudden insights, owing to this steady activity. The feeling that accompanies these epiphanies is called the 'aha' or 'eureka' experience in psychology (Colman, 2001). I have had 'aha' experiences even my mind was engaged with other problems. This would seem to suggest that conscious and unconscious thinking may well occur in different brain regions, and arise from distinct brain mechanisms, the left brain (verbal) being responsible for the former and the right brain (non-verbal) being responsible for the latter cognitive activity.

Solving problems with insight has indeed been related to activation of the right brain's superior temporal gyrus. No insight effect has been reported for the temporal lobe of the left brain. High-frequency EEG bursts were recorded from the right-hemisphere temporal regions 0.3s prior to

insight solutions (Bowden and Jung-Beeman, 2003; Jung-Beeman et al., 2004).

I think my brain experienced a long-lasting incubation period, and so was made ready for sudden insights into the problems that had previously stumped me. Accordingly, I experience insights more often now than before, i.e., in my advanced age, compared to my youth.

The discovery of Unertan Syndrome and of reverse evolution was just such a flash of understanding, an 'aha' experience. Upon receiving information from a friend of mine, I immediately visited the village of a family with nineteen children, residing in a rural area of southern Turkey. Five of them exhibited a peculiar form of walking. I grew quite excited and felt my hair suddenly stand on end when I first saw them. One of them shouted at me angrily—apparently not sensing my increased heart rate, reddened face, and trembling hands. The five siblings were walking on both their hands and feet, accompanied by their dog (also walking on all fours).

During this chaotic state, full of a high-level excitation, I realized all at once that they were exhibiting the walking style of our ape-like ancestors—a case of reverse evolution. Both ideas leapt spontaneously and simultaneously to mind, without conscious thought.

In addition to quadrupedality, they had a 'zero' score on the Mini-Mental-State examination test, standardized for uneducated Turkish individuals. Apparently, they did not have much in the way of conscious experience. They had no sense of time, place, and did not even know which

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country they lived in. They spoke Kurdish, but their neighbors could not understand them, as though they had a language all their own. They could not name simple objects.

Because they used their hands to walk, I reasoned that their manual skills would be very poor. Therefore, I assessed these abilities, using Annett's peg board task. As expected, these motor skills were markedly diminished, characterized by clumsy hand movements.

After returning home, I wrote an essay describing these individuals and their hand skills. I sent the article to a noted journal on brain and cognition. In doing so, I aimed to bring these people to the attention of the scientific community. I did not send the article to any publication involved in evolution, since I did not have any experience in writing on that topic. Soon after submitting my article, I received a letter from a reviewer. He said that this was an extremely interesting case which deserved publishing in highly respected journals such as *Nature*, and he wanted my permission to show it to his colleague, a world-famous scientist. I immediately accepted his offer. The two of them were first to suggest the name, *Unertan Syndrome*, and I accepted their suggestion.

I invited these two English scientists to Turkey to study these cases together, and publish the results in *Nature*. To my surprise, they were accompanied by a cameraman from the BBC. They wanted to make a video. I believe they visited Turkey four times, together with the cameraman. In the end, I did not want to accompany them, because I had noticed by chance that they had secretly reported these cases to their institution (the London School of Economics), and also published on-line, again secretly. (Their on-line site is not listed in any scientific index, however.) It was a sad and amazing experience for me, since they first suggested *Unertan Syndrome*, and always said: "You are at the top." I actually never suspected that I would be cheated by my seemingly sincere English friends.

Priority has always been very important in science. Therefore, I have prepared an article, describing my discovery and my theory of 'evolution in reverse.' I

wrote two articles on the subjects. I submitted one of them to the editor of *NeuroQuantology*, Sultan Tarlaci, who then published it (Tan, 2005). I submitted the second article to the *International Journal of Neuroscience* (Tan, 2006).

The English scientists claimed in their article that we may never see such a family again; this may be the first and last. My neighbor, Mehkem Aykor, working at the US air base in Incirlik, was interested in my scientific work, and I had told him about these people who walked on all fours. One day, he told me that he had seen two men begging for money on the street. One of them was walking on all fours and the other on two feet, albeit unsteadily. I immediately went out to look for them, but at first could not find the two men. After questioning taxi drivers in Adana, however, I succeeded. The pair usually visited the mosque to have lunch and I met them in the garden of the mosque. They were pretty poor people. I got extremely excited, because I had found another man walking on all four extremities, despite the claims of the English scientists. In addition to quadrupedality, they both had language difficulties and retarded intelligence. Another 'aha,' another example of *Unertan Syndrome*, another case of hair standing on end. I immediately prepared another paper: "Evidence for *Unertan Syndrome*."

Meanwhile, BBC TV was going to air a report on the first family, and many journalists from all over the world were visiting me. I agreed to give interviews to them. All at once I became the most wanted man in the world, due to the discovery of my eponymous syndrome and the theory of reverse evolution in human beings.

Following my work with the first family in Iskenderun and the second family in Adana, I received an e-mail from a physician working in a private hospital near Gaziantep. He wrote, "I have a big family living in a small village near Gaziantep, and there are three families with children who may have the *Unertan Syndrome*. Again, I immediately visited the village and witnessed these individuals. Afterwards, a journalist called me and reported yet another people with

quadrupedal walking, together with impaired speech and intelligence. So, the Syndrome and the related reverse evolution were not, in fact, unique cases, as previously thought by my "friends" from the London School of Economics.

The pedigrees of these families suggested that an autosomal recessive transmission might be responsible for the Syndrome. If so, it seemed clear that there ought to be a genetic mutation behind quadrupedality and reverse evolution. As a result of another 'aha,' I saw that the same gene would have played a role in transition from quadrupedality to bipedality millions of years ago in our apelike ancestors. In fact, the mechanisms for the transition from walking on all fours in our ancestors to upright standing and habitual bipedalism, is of utmost importance in human evolution. Accordingly, many scientists from all over the world were asking me to collaborate on studies of the genetics of the Syndrome, especially in relation to quadrupedality. I thought, however, that this might be done in my own country. I was upset, since most of my colleagues said that it might *not* be possible in Turkey. I finally found a sincere colleague from Bilkent University, Prof. Dr. Tayfun Ozcelik, who accepted my offer. After a long period full of difficulties, especially in getting funds, we succeeded in discovering the gene responsible for quadrupedal walking and reverse evolution, resulting from a collaboration of scientists from Cukurova University, Bilkent University, Baskent University, and Hacettepe University.

We have also succeeded in publishing our results in the *Proceedings of the National Academy of Sciences of USA*, which is the first article on genetics originating solely from Turkey (Ozcelik et al., 2008). This was great: the first gene for quadrupedality was discovered and Unertan Syndrome was recognized by a world-leading scientific community. The editor of *PNAS*, Mary-Claire King (a geneticist at the University of Washington), said, "Human molecular

genetics in Turkey is 'on the map' with this elegant analysis."

I have also found encouraging reports from *World Science* (March 04, 2008) and *Anthropology* (March 14, 2008) on the internet. For instance, Jack Lucentini, the editor of *World Science* wrote: "After two years in which he sometimes tasted ridicule, there is now some recognition for a Turkish scientist who claims evolution may have gone backward in some unusual countrymen of his. Physiologist Uner Tan's latest research on the people—who have walked on all fours lifelong—is set to appear in one of the most prestigious scientific journals. In this research, Tan and colleagues identify a gene linked to the condition, which they call Unertan Syndrome [...] The publication comes after Tan, facing skepticism and sometimes hostility, had long difficulties in getting his studies on the syndrome published in major journals, with the subject: "After jeers, some recognition for reverse evolution theorist."

Gadfly said in *Socratic Gadfly* (March 04, 2008) "And, in apparently being proven right, Uner Tan has overcome the shameful cultural imperialism of a renowned British scientist that I described when Tan first announced his startling findings [...] Well, now, Tan has the last laugh, or the last research triumph, over Humphrey."

Summing up, *Homo erectus*, the first human-like being, and the first man who resisted gravitational forces to the extent of achieving an upright posture, thereby exhibited a dominant human psychological trait, viz., the resisting mind. Today, human beings continue to wrestle with natural forces and the resisting mind has taken us into depths of the cosmos, searching out the mysteries of existence. Man succumbs to the battle only in death, at rest in the earth forever.

Please be patient! The work on Unertan Syndrome is not completed yet. Wait for further reports on *Homo erectus*.

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