



ACADEMIA ENGELBERG

8th Dialogue on Science – October 14 – 16, 2009
in Engelberg, Switzerland

**Josef Reichholf, Prof., Technical University and Ludwig
Maximilian University, Munich, Germany**

Evolutionary Aspects of Violent Aggression

The closest relatives of our own species, Homo sapiens, are the great apes, especially the two species of chimpanzees. Genetically they differ at only slightly more than one per cent. Gorillas and Orang Utans are more than twice as distant. Being the peaceful apes they contrast sharply to man, the aggressive and warlike primate. Something extraordinary must have happened, therefore, during the evolution of man, because behaviour changed towards severe intraspecific aggression and at least sometimes also uncontrolled violence. A well known proverb says that “man is man’s wolf” and human intraspecific aggression prohibits a peaceful coexistence of people.

From an evolutionary point of view three major questions arise in this context:

- When did our ancestors become so much more aggressive than their close relatives, the great apes?
- Why did this aggressive behaviour develop and for what was it good for?
- Is aggression an inborn trait of humans or is it predominantly the result of social conditions and influences during childhood and juvenile age (the “nature-nurture” – Problem!)?

Some tentative answers can be given for discussion.

- The formerly low level of aggression rose sharply when human’s evolutionary forerunners developed bipedal running and changed from plant food to meat, which is an attractive resource worth to fight for it.



- The change from plant food low in protein to meat paid in evolutionary terms by doubling the number of surviving children per fertile female and by extending the care for the children twice to three times as long as it is usual in apes. Homo sapiens, i.e. our own species, survived because it has been the most aggressive species of the genus Homo.
- Though aggression seems to be genetically determined to some degree at least, much of its expression clearly is the product of the society and the socio-economic living conditions. Man is inclined by his very nature to form strong ingroup relations, which tend to turn outgroup members into non-human beings. The most prominent roles therein play religion(s) and ideology. Our greatest achievement, language, acts in this context as the most powerful method for excluding “the others”. As a result, humanity does not act as an entity (“one species”) but behaves like a swarm of more or less distinct species which distrust each other and are prone to use violence with the (internal) justification that this is for the sake of all which belong to “us”. War and violence, therefore, quite likely are the “dark side” of our evolutionary success and of human culture.