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Nature and Nurture

A Nonkilling Developing World Perspective

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Introduction

The registered history of humanity is full of descriptions of wars, conflicts, ideological struggles, territorial fights, crimes of state, murders of leaders and common people, alliances between enemy groups to initiate wars or finish them, periods of peace and the appearance of new wars. It is like a cycle that seems to have no end. A simplistic vision of the facts could get one to affirm war is inevitable and that human beings are assassins by nature.

The reality is another. Less than 0.5% of human beings who have existed have killed another human being (see Paige, 2009 [2002]). There are peaceful cultures where to kill another person is something exceptional and socially condemned. Long periods of peace in many civilizations have existed. In addition we know that culture, more than biology, is the central determinant of human behavior in its varied facets and is the foundation to construct civilization.

It is also acknowledged that nonhuman animals kill each other, which is certain. But the killings of members of the same species are exceptional, and happen basically in the fights between males over females, or individuals for food, or to defend a territory. The normal thing is that animal groups defend the members of their species against attacks of other species; there are no intraspecific killings.

In the human case, the massive murders of other human beings for ideological, economic, religious and territorial causes have filled history books. In fact, the history of humanity appears to be basically the history of the wars. Almost the only thing that has been considered worthy to be registered in books have been wars, assassinations, genocides, invasions, massive deaths of other human beings, and the armistices and alliances to finish wars. Peace was the backdrop, the background, the space between two wars. But what the chroniclers and historians considered worthy to be part of the historical registry were the wars and their consequences.

This brought about the affirmation that wars were inevitable, that the human being was a killer by nature and that violence was imprinted in our genes. This position was defended by many thinkers and ideologists. Nevertheless, what those authors ignore is that human culture is made by human beings, and the values are imposed on the genetic substrate (see Lewontin, Rose and Kamin, 1984). Even if to kill were biological, even if the discrimination by group differences (gender, race, age, ideology) were biological, at any rate human beings are able to surpass their limitations by means of culture, which is the part of the environment made by human beings. Culture, much more than biology, determines the social organization and the daily life of people.

On the other hand, as manifested in the Seville Statement on Violence (1989), science demonstrates that violence is not inevitable, that wars are not inevitable, are not part of our nature. And most important, that the species that invented war can also invent peace. This chapter revises the ideas of nature and nurture in the context of the developing world—with special focus in these first decades of the 21st century—to understand the problems of killing and nonkilling in a global perspective.

The Developing World

In the developing world or majority world, there are wars, social inequality, social class conflict, marital violence, domestic violence, violence against children and the elderly and many other forms. Most of the conflicts and wars of this decade of the 21st century happen in the developing world. There is also violence against animals: bullfights, cockfights, dog fights, animal tortures in circuses, the abandonment and negligence of pets, the abuse against beasts of burden (horses and others), the cruelty when sacrificing animals for human consumption—all these evils are endemic in the developing world.

The developing world refers to that great part of the world where the majority of people live with unsatisfied necessities. These countries are located mostly in Africa, regions of Asia and Latin America. They are nations where the gross domestic product is very low and the Human Development Index (HDI) does not reach the desirable levels. As an example, we can point out that the highest HDI is that of Iceland (96.8) and the lowest is the one of Sierra Leone (32.9). (See *The Economist,* 2010.) In the developing world there is high infantile and maternal mortality, reduced life expectancy, unemployment and under employment, endemic diseases and numerous social conflicts. The gross national product is quite variable in the world at large. Whereas the highest per capita income of the world is US$ 103,040 (in Luxemburg), the lowest is of US$ 120 in Burundi. In the devel-

oping world one finds immense social differences and a considerable gap between the different groups that make up the society.

It has been said that the developing world should be called the majority world, because it has most of the population of the planet (around 70% according to some estimates). It is also a fact that the concepts of development, developing countries, poverty, and inequality are relative concepts that change with time, with cultures and ideologies. But such breaches exist, they are there, and they are very obvious when compared with the developed world. It would seem as if we were dealing with different planets.

It cannot be asserted that poverty and inequality are the causes of violence. Many poor countries have no guerrillas, neither manifest violence, nor wars. And on the other hand, rich countries also have violence, high rates of homicide, suicide, discrimination and segregation.

In the developing world the concepts of poverty (see Lipina and Colombo, 2009), misery, employment and unemployment and violence have their own characteristics, which are not always the same in the developed countries (see Adler and Denmark, 2004; Ardila, 2004). In the developing world it is considered better to have a bad job than not to have any, low quality housing is better than none, a deficient and slow transportation system to go to the work is preferable to not having one. Endemic violence sometimes gives rise to a culture of violence (see Rupesinghe and Rubio, 1994).

The discussions on biology and culture, on the genetic determinants of human behavior and on evolutionary psychology have not been centered on the great differences between the developed world and the developing world. It is considered that we human beings are the same species, who share the immense amount of our genetic load (99% or more), an affirmation that has a solid scientific base. The studies on the human genome have served to demonstrate the fundamental equality of the human species. The differences are part of the culture. Also parts of culture are the differences in violence, aggression, delinquency and criminality that we find in diverse countries, different cultures and in different human groups.

The Innate, the Learned and their Interaction

In some conceptualizations of present-day science, an unusual emphasis on genetic, biological and evolutionary explanations is noticed. Genetic determinism has once again gained importance, to be relevant, seeking to convert itself into the explanation of the differences between men and women, between different ethnic groups, between the groups in intelligence (cognitive ability), be-

tween countries and cultures, in the predisposition to diseases, the characteristics of behavior, to explain the differences between people. The pendulum moved from the environmentalist extreme of a few decades ago to the geneticist extreme, as previously it had been done from the geneticist to the environmentalist, and as it will surely move in the future, from this second decade of the 21st century, once again towards the environmentalist extreme. The movement of this pendulum has been constant in the explanations of human behavior: Genetics-environment-genetics and environment once again.

In the specific case of aggression and violence, it is important to remember the great plasticity of human behavior. Not all cultures have been violent and the immense majority of human beings are not. Specific social behaviors are not genetically defined and differ from one country to another. This applies to prosocial behavior, to altruism, as well as to aggression and violence. The excessive emphasis on the genetic determinants of behavior, for example in the case of the violence, is an error and a biased interpretation of the information that contemporary science offers to us, above all, genetics and evolution.

The human species is one of many that arose in a specific ecological niche in a certain era and developed the abilities and skills to survive and progress in that environment. We are referring to Africa, to the zone where specifically the pre-hominids, hominids, and human beings arose and from where the great "out of Africa" migration began that reached Europe, Asia, and the rest of the world. In that primigenius context the conditions of life, the social organization that our ancestors developed and the demands of the surroundings caused certain behavior to be more adaptive than others. Adaptive behaviors included, for example, defending their own group, fighting over females, taking care of the young, avoiding predators, preparing for the ecological contingencies (temperature, food shortages, natural catastrophes, and exhaustion of resources), planning for the future, favoring the organization in groups. Survival pressures also selected predispositions to defend against members of other groups, to ingroup cohesion, and altruistic conduct for the survival of group members who shared a common gene pool with us. Clearly, aggression toward those who were different from us could be exhibited in order to defend our biology and defend our culture.

But despite all the scientific findings of evolutionary psychology (see Buss, 1999; Dunbar and Barrett, 2007; Confer et al., 2010), in spite of their theorizations, their speculations and their important suggestions explaining psychological and cultural evolution, it is clear that we human beings do not wage war because we possess those predispositions in our genes. Neither does the tendency to defend ourselves and perpetuate what identifies us as individuals

or groups lead to attack and destroy those that are different from us. Instead, human beings are the only animals that have invented war.

Nonhuman animals show aggression between species, and also defense of territory, fights for females and food. This intraspecific aggression is very different from the systematic and planned violence that has historically been observed in the human species, in wars, in the destruction of human groups. Intentional killing exists exclusively in human beings. Violence (which is exclusive of human beings) consists in systematically injuring or killing other members of our own species. This is not found in nonhuman animals. It is a cultural product, a consequence of historical and ecological circumstances, but it is not part of the nature of Homo Sapiens.

The Great Question: Are We Innately Aggressive?

In spite of what we know about human behavior, about relationships between nature and culture and about the origins of violence and aggression (see for example Kool, 2008), there exists in the collective imagination the belief that we human beings are aggressive and violent by nature and that the friction between groups and ideologies, the conflicts that give rise to wars and murders are natural. A lot of experimental research have has been carried out to try to respond to the research questions such as whether genetics or environment or some combination of the two account for differences between animal stocks, individual differences in humans, gender differennces and a host of other differences. Behavior genetics could shine light on some central problems of evolutionary psychology, and in general on the determinants of behavior. This has been one of the great questions of psychology throughout all its history.

One of the most systematic studies was carried out with Norwegian rats, which were selected during 50 generations in terms of the presence or absence of high *aggressiveness*. It was found that cerebral serotonin contributes in a decisive way to the genetic mechanisms underlying the individual differences in aggressiveness. (See Popova, 2008.) The genes that codify the main enzymes of the metabolism of serotonin in the brain (that is the tryptophan hydroxylase and monoamine oxidase A, abbreviated as MAO-A), and the receptor 5-HT 1A, form part of the complex group of genes that modulate aggressive behavior.

In the case of human beings, there has been research on people with genetic abnormalities in sexual chromosomes, especially violent family groups, twins, etc. The studies concluded that between 3 and 12 years old, the influences of genetic factors on aggressiveness are considerable and

steady (Van Beijsterveldt et al., 2003). These factors vary as people age. With time the influence of the genetic factors is more important in women than in men. So, we find a complex relation between genetics, environment, and differences of gender in the aggressiveness of human beings.

Other studies with different groups have confirmed that the heredity of aggressive behavior is greater in women than in men, and in men the effects of shared environment are stronger than in women. Men are more prone to experience environmental pressure to be antisocial or aggressive than women. On the other hand, boys are more aggressive than girls, which have been observed in numerous studies and in numerous cultures. However, during adolescence, this gender difference in aggressiveness disappears.

The differences in aggressiveness would be based on a complex genetic map, with numerous genes that are implicated in the codification of the functioning of the neurotransmission systems, with the neuroendocrine system, with the MAO-A. The levels of 5-HIAA in the brain fluid, the neuroendocrine changes and the serotonin levels in the platelets and the serotonin transporter levels can help to distinguish between aggressive patients and control subjects, as much in children as in adults.

It is clear, on the other hand, that the *expression* of a determined gene depends on the *environment* that the individual experiences. In the case of aggressiveness, the role of stress has been well documented. The poor control of impulses has been associated with genes that have to do with the serotoninergic and catecolaminergic systems. It is possible to state that genetic aspects influence biological factors such as arousal, hormone levels and neurotransmitter levels.

Behavior genetics has demonstrated that *the environment* plays an important role in the expression of a trait that possesses a determined genetic load. For the case of aggression (persistent or punctual) the interaction of genetic and learned factors is very important.

Psychology and Aggression

Research on the genetics of aggression and violence and their interaction with environmental factors has demonstrated the role of context determinants—physical and social—in the expression of an aggressive act. In the case of human beings, culture has developed forms of expression of aggression that are socially accepted and that are differentiated from other forms that are not tolerated. The friction between people and groups, extreme arousal and hypervigilance, can lead to situations of conflict and physical or verbal attacks to other people. Cultures tolerate such forms of

aggression within certain limits, and different cultures set up different boundaries for those aggressive acts. There are certain verbal and physical expressions of aggression, such as joking, playful fighting etc., that are accepted, and there also exist limits that cannot be crossed.

Human behavior is learned, based on genetic foundations and predispositions that have resulted from our development as a species. The way we act, how we feel and how we communicate with one another is fundamentally determined by social learning. We are children of the culture, just like we are children of our family and our biology, and without a doubt the capacity to learn and modify our behavior based on the consequences of our actions and on cultural norms, explain the greater part of human action. Biology is not destiny, and neither is the evolutionary history of our species.

In the specific case of violence and killing, it is clear that killing is not something that the human mind naturally tends to do. On the contrary, human beings have a high resistance to killing. Even in the most extreme wars and conflicts, to kill is something that produces horror in the person who kills. This is also applied to the case of the executioners, of torturers and people that for conditions of their work have killed somebody (for example the police in extreme situations). Referring to the acts to killings in times of war, Grossman affirms (1995: 31): "Looking another human being in the eye, making an independent decision to kill him, and watching as he dies due to your action, combine to form the single most basic, important, primal, and potentially traumatic occurrence of war".

Many soldiers in a war refuse to kill their enemies, and it has been found that only a relatively small percentage of soldiers really shot their weapons. Even in situations of self-preservation, the resistance to killing is strong. People avoid killing the enemy, not for fear as one might assume. This is demonstrated because they are capable of executing very potentially dangerous situations, different from killing another person. And even in those cases in which soldiers or police shot their weapons, they did it being careful not to kill the victim. This *intention of not killing*, in battle situations, has surprised those who believe members of the human species have a killing instinct or that man was a killer-ape.

Murders committed when the victim is not visible, for example in the bombings during wars, are much less traumatic that murders that occur with the victim in sight. This is demonstrated in the psychological studies of Milgram (1974) obedience to authority figures; that is, people are more likely to resist orders by authorities to harm others when the victim is present as opposed to not being physically present in the same room. Similarly, to drop a bomb from an aircraft

on a group of individuals that are beyond view is much less traumatic than directly hurting somebody. Nevertheless, when they are directly confronted with the consequences of their acts of war, these bomber pilots during the war make fantasies about the destructive effects of their acts and experience traumas.

In the context of violence and tortures of some decades ago in several regions of the world, including the developing world, Post Traumatic Stress Disorder (PTSD) has been studied, in the victims as well as in the torturers. And although there is much more research work about the victims, there is also some in regard to the *perpetrators*. In the countries with internal conflicts, among them Colombia and others (Palacio and Sabatier, 2002), there is research about the psychological effect of having lived in situations of bellum confrontation and frequent murders, including the killing of the members of the same guerrilla group for reasons of "loyalty" or "security".

In the past there existed the profession of the executioner, who was in charge of the executions of the condemned, including the times of the great revolutions, among them the French Revolution. There exist descriptions of present day executioners in the countries with the death penalty and of the psychological effect of this work on those who perform it (see Cabana, 1996). The feeling of anxiety and horror that accompanies the executioner has been very well documented: nightmares, scenes of nausea, feelings of guilt, distortion of time, physiological effects, feeling exhausted, and as Cabana says "Try as I might, I could not separate myself from the horribleness of it all" (1996: 17).

It does not seem reasonable to think that if killing were a natural tendency of our species, such negative effects would occur. It has even been documented in the case of the police, that shooting someone is more traumatic for those who shot than for those who received the shot. Even in situations where to terminate with the life of another person is socially accepted and "desirable" as in the case of the executioners in countries where the death penalty exist, and in the case of the police who intervene in the case of a homicide and kill the murderer, you still see this clinical pattern of trauma. In fact, as mentioned earlier, killing is not something that the human beings naturally tend to do.

The Despersonalization of the Victim

One of the forms that human beings have invented to manage to overcome the tremendous trauma that results from killing another human being is to depersonalize the victim. The cognitive dissonance that appears as the result of killing another person is dealt with by means of a cognitive adjustment that consists of convincing oneself that the victim was not a real and complete

human being. In the case of the Holocaust, which is very well studied and documented, it consisted of convincing ourselves that the Jews and the gypsies were inferior human beings and we were trying "to improve" the human race, and that the medical experiments on humans conducted during the Holocaust served to help advance human knowledge (Cornwell, 2003). This same idea was found in the genocides of the original peoples of America and Australia: the native ones "did not have a soul" were not equal to us and therefore to destroy them was not to kill another human being but to get rid of a sub-human enemy. It was to expand European and Christian civilization to groups that did not want to understand that we did it for their benefit and their salvation. In the case of the slaves the situation was similar.

Only when natives and blacks were recognized to have human rights was it accepted that the different ethnic groups all belonged to the great human family. At that point, killing a native or a black was considered the murder of a human being, equal to any other.

The slaughter of *animals* has special characteristics. For enjoyment and excitement reasons it exists in many parts of the world, but most of all in the developing world. Bullfights are in some countries of the developed world (as Spain) but for the most part exist only in few countries of developing world. The cockfights, dog fights, etc., are only in the developing world. On the contrary, hunting as a sport, to kill animals as a distraction (see Bok, 1999) is part of the culture of some countries that are regarded as very civilized, industrialized and advanced - hunting as a sport for some European royal families and some nobles, and the excursions to Africa or South America in hunting expeditions, are well known. Killing animals for fun, for no need at all, not to consume their meat, nor to defend against them as possible predators, is something that the developed world accepts. The important thing from the psychological point of view is that it is considered that animals do not have "rights", are not equal to us, and therefore we can torture them, kill them for fun, even to breed them with the exclusive purpose of torturing them and killing them as in the case of bullfighting.

The important exceptions are pets. People take care of them, love them, live with them, take them to the doctor, feed them appropriately, vaccinate them, suffer when they are sick and really miss them when they die. Pets are not eaten. A dog, a cat or a canary are not considered appropriate to be eaten. However a cow, a sheep, a hen, a pig, a fish, can be eaten without any problem. Rabbits occupy a difficult intermediate place between pets and animals that are consumed. There are countries that eat dogs, cats and other pets, and that habit produces horror to the inhabitants

of the developed world. Curiously, many African peoples do not understand how in the West we raise dogs, cats and other animals as pets.

Therefore, there would be in the mentality of our society several types of animals: ones to take care of, to love and be company like a member of the family: they are the pets. There are others to be killed after torturing them, with the purpose of proving our abilities, our intelligence, and our cleverness: they are game animals, the fighting bulls, the gamecocks and the fighting dogs. In a third category are animals that we consume as food (cows, sheep, fish, pigs, hens, ducks, turkeys, geese, shellfish and others). The sacrifice of animals for food is something accepted among most members in human societies, with exception of the vegetarians (a minority that varies between the 3 and 12% of the population in Western countries). Animals that are consumed are often raised in quite inhumane conditions; they are sometimes force-fed in an artificial way, and are sacrificed as soon as possible upon reaching an appropriate age. The death of cows, pigs and other species is quite cruel, especially that of pigs in the developing countries. I always have said that if a person sees a pig slaughtered, they immediately become a vegetarian, or at least never in their life go back to eating pork. And Paul McCartney stated, "If slaughter houses had glass walls, everyone would be a vegetarian".

At the bottom of the matter exists the separation between "us" and "them", between the in-group and the out-group. The Jews, the gypsies, the Native Americans and the black slaves, are not equal to us. Neither are the mentally retarded, the schizophrenics, the serial killers, the thieves, the rapists, the autistic children and the deformed. And much less are game animals, the fighting bulls and the animals that we raise to feed us. However, it would seem that pets were equal; they are loved, protected, spoken to and even left inheritances.

In ethical terms this could be analyzed within the context of moral exclusion, of the "us- them dichotomy", of the denial of human rights to those who do not belong to our group, species, culture, gender, sexual orientation, ideology or community. The "us-them dichotomy" has explained a great part of the killing at all levels, throughout history and also in today's world.

Conclusions

The contribution of psychology to the mission of nonkilling can be very important. As has been indicated by Paige (2009 [2002]), Evans (2009) and others, nonkilling refers to the absence of killing, threats of killing, and conditions condu-

cive to killing in human society. Fundamental importance is given to the conditions that can lead to a society that does not have murder, genocide, terrorism, the death penalty, honor killing, ritual killing, infanticide, structural violence and other forms of killing, direct, indirect or structural. At the core of the matter is announced an ethics of respect for other human beings, and in general for other living beings and for an ecological context. An ethics that has as its underpinning in the conviction that nobody has the right to take the life of another person.

All of this would seem far away if we observe the present world, the violence, the wars, the aggression and all the social ills that are observed in our daily life. But human behavior, social organization and culture are highly flexible and are the product of human action. We are not genetically destined to aggression, violence, war or to kill other human beings. Science, including psychology, has demonstrated that it is incorrect to say that we have inherited a tendency to make war from our animal ancestors. It is false that war and other violent behavior are genetically programmed in our nature. On the contrary, how we act is shaped by how we have been conditioned and socialized. Biology does not condemn us to kill others, nor to wage war, nor to genocide nor to terrorism. Science indicates that we are able to reach the measurable goal of a killing-free world.

Psychology has worked very much in this direction as we have indicated before (Kool, 2008; Christie, Wagner and Winter, 2001; Anderson, 2010; MacNair, 2002, 2009; Ardila, 1989, 2001). The studies on nonkilling, non violence, peace and conflict resolution, causes of violence and aggression, psychology of war and peace, are numerous. The scientific evidence, its empirical base, the possibility of verification and the practical and direct applications, make this area of work and research very promising. All this should be framed within a philosophy of respect for others, of recognition of the differences and of humanism.

The main psychological organization world-wide, the International Union of Psychological Science (IUPsyS), through the Committee for the Psychological Study of Peace, released a declaration concerning the possibility of turning the Culture of War and Violence to a Culture of Peace and Nonviolence, which we present in the end. The structural causes of violence are emphasized such as social injustice, poverty and the exclusion that leads to intergroup hostility.

We are not genetically programmed for violence. War is a human invention, as peace, harmony and solidarity can also be. The first step to achieve this is to recognize the great flexibility of human behavior, the role of social learning and to believe that a better world is possible for everyone.

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Appendix

Statement on a Culture of Peace agreed upon by the participants in the Sixth International Symposium on the Contributions of Psychology to Peace, in Costa Rica, 24-29 July 1999, convened by the Committee for the Psychological Study of Peace of the International Union of Psychological Science (IUPsyS).

The here assembled psychologists from all continents declare that a shift from a Culture of War and Violence to a Culture of Peace and Nonviolence is founded on changes in values, attitudes and behaviors committed to benevolence, tolerance and solidarity, and the full development of the potential of all. Psychological knowledge is an important tool in facilitating such a shift. A genuine change from a Culture of War and Violence to a Culture of Peace and Nonviolence, can, however, only occur in a context of social justice.

Psychological knowledge emphasize that violent and nonviolent behaviors are a function of the interaction of individual and social influences. Those behaviors are developed through family, community and cultural experiences. The thoughts and feelings of individuals and groups are important in determining whether a potential conflict situation will evoke violent or nonviolent responses. Understanding misattributions, increasing levels of empathy for the situation of others, and enhancing the strength of values of social justice, equality, wisdom and protecting the environment can help to promote nonviolence.

Exposure to aggression and violence in one's community or through the media influences the way individuals as well as collectives interpret, respond to, and act in potential conflict situations. The structural conditions of poverty

and social injustice are nevertheless primary sources of intergroup hostility. Such hostility is particularly likely in situations of rapid social transformation that entail an increasing structural inequity within and between societies. Individual and collective representations of potential conflict situations play a major role in determining whether violent or peaceful behaviors occur.

Psychology has provided evidence that on a societal level, political and social leaders can be powerful role models of peace-building attitudes and behaviors. On an intermediate level, family, school and community prevention and intervention programs have been shown to reduce violence within a society. They can be more effective when signs of emerging conflict first appear, and in immediate post-conflict situations. At the individual level, early interventions are more successful than interventions initiated later in life. Later interventions have, however, also been shown to have important impact. The effectiveness of prevention and intervention programs can be enhanced by considering the developmental levels of the participants and their cultural and social context.

The above is based on accumulated evidence-based knowledge across continents and areas of psychology. We emphasize that a significant contribution to a Culture of Peace can be achieved through an implementation of the above policies. We recommend the dissemination of these principles to governments, educational and societal institutions.

This statement was formulated in honor of the late Ignacio Martín-Baró who gave his life for peace and social justice in November 1989.