SCIENCE, THE QUR'AN, AND THE MORAL COMMUNITY

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With anti-western diatribes radiating from radical Islamic organizations, Western armies invading Islamic countries, and seemingly unbridgeable cultural and religious disparities separating the Christian West from the Islamic Middle East, it appears to be impossible to begin building bridges between the two civilizations. With Samuel P. Huntington predicting a "clash of civilizations", Pope Benedict XVl's university lecture in 2006 triggering riots in Muslim lands from Somalia to Turkey, and the violent reaction in England to the suggestion by former Archbishop Rowan Williams that Sharia Law might have a part to play in the domestic law of that country, all revealed a wide gulf between Western civilization and the Islamic world.

The reaction to this state of global affairs is predictable: academics of good will advocate ways for both sides to understand each other better, and governments and cultural leaders will emphasize the need for reconciliation and mollification. Religious leaders will look for scriptural references and theological texts that stress similarities of religious belief and tolerance for dissimilarities. Political and cultural leaders will call for student exchanges, encourage tourist travel, and increased diplomatic activity between the two civilizations. Philosophers and ethicists will reinterpret the historic texts of both civilizations and hold international conferences where quotations will abound, differences highlighted, similarities celebrated, and grand syntheses created. All of these activities will be valuable but not determinative. The missing ingredient is observational, experiential, experimental, and verifiable empirical science.

In the following sections of this chapter I will suggest a new way to examine the similarities between Western and Islamic civilizations. Instead of looking exclusively for similarities between the Bible and the Qur'an, or finding comparisons between the political, economic, and social systems of the two civilizations, I will lay out the relationship between the new sciences of neurobiology, evolutionary psychology and game theory, and how these new investigations are changing the views scientists have of human nature. The point-of-view will center on the fact that through these new sciences there is emerging a perspective contending that there are certain universal human values, virtues, and rational viewpoints regarding the relationship between the community and the individual, and also a universal human outlook

regarding the basic elements of what could be called a moral polity. The idea is that even though religion, culture, and forms of government may be different between the Islamic and Western worlds, there is a common humanity that binds all peoples of the world together. This enterprise will be undertaken in three sections.

Section one of this chapter will sketch out some of the conclusions being reached by social anthropologists and evolutionary psychologists regarding universal human culture, values and virtues, and how these investigations are changing our views about human nature. Section two takes a look at four basic Qur'anic principles of good governance and how the application of these principles is compatible with the findings of contemporary science regarding the essence of human nature. Section three looks at how contemporary biological and social sciences are auguring for a new frame of mind when looking at differences between civilizations. Of course, the subject is large and space is small, and one must always remember the words of Sir James M. Barrie: "Life is a long lesson in humility" – and certainly this body of learning is just in its beginning phase.

I

In a world of cultural, racial, ethnic, religious, and economic differences, it is a little more than odd to suggest that contemporary biological and social science is finding a new unity out of such human diversity. Perhaps a good place to start looking for unity out of diversity is within the phenomenon of culture; surely, there is nothing more diverse than the various cultures of the world. David Brooks, the New York Times columnist, has defined culture as "a collection of habits, practices, beliefs, arguments, and tensions that regulate and guide human life."1 Culture is defined by G.W.F. Hegel, the great German philosopher, as the "Spirit" of a people as reflected in their law, values, constitutions, arts, sciences, technologies, religion, and social organizations.2 Summarizing bodies of studies on the subject of culture, Daniel P. Moynihan, the American social scientist and public intellectual, stated that the "Central conservative truth is that it is culture, not politics, that determines the success of a society."3 Is there any scientific way to investigate cultural diversity throughout the world while looking for universal human values and virtues? In other words, could worldwide cultural diversity be grounded upon a set of universal human values? Are there traits and characteristics that define a common human nature?

The answer to these questions, as reported by social scientists, is "Yes"! After exhaustive research throughout the world, Harvard University based social scientists Lawrence E. Harrison and Samuel P. Huntington reported, in an important book entitled Culture Matters: How Values Shape Human Progress, that most peoples around the world were anticipating political and economic leadership that would bring to their homelands "human progress." The phrase "human progress" was interpreted to mean "a movement towards economic development and material well-being, social economic equity, and political democracy."4 In the same study, Harrison and Huntington found that certain values seemed to be

universal: life was better than death; freedom was better than slavery; prosperity was better than poverty; education was better than ignorance; and, justice was better than injustice.5 If one defines culture as a set of values, Harrison and Huntington are arguing, then the most important universal cultural values are: personal safety, freedom, economic security, knowledge, and fairness (justice).

Donald E. Brown, a University of California – Santa Barbara anthropologist, has identified hundreds of other universal human values exhibited by most populations around the world. Through his cross-cultural studies, Professor Brown has identified evidence for the evolution of moral emotions that lead to a common set of human cultural behavioral patterns, and create the groundwork for development of social, political and economic institutions. Some of the 373 universal human moral emotions discovered by Professor Brown were: *affection* (key to cooperation), *attachment* (key to friendship), *empathy* (key to moral sense), *fear* (foundation for guilt), *self-control* (moral behavior), and *shame* (moral sense). These moral emotions become the bases for personal values necessary for community success. Without community cooperation, personal friendship, sensing another's emotions and thoughts, feeling personal shame, and self-control, life within a community would be chaotic.

Some universal moral emotions and behaviors, which are translated into community values, and necessary to community survival, were: *hierarchy* (unity of command), *collective identity* (community defense), *conflict mediation* (moral judgment), *etiquette* (enhance social relations), *gift giving* (reward for cooperation), *institutions* (rule enforcement), *law* (rights and obligations), *sanctions* (social and moral control), and *turn-taking* (conflict prevention). Some economic universal emotions that morph into economic values were: *cooperative labor* (required for task specialization), *fairness and equity* (equal pay for equal work), *judging others* (labor competition), *pride* (job well done), and *redress for wrongs* (conflict resolution). The idea is that emotions are the foundation for human values, behavior, economic, social, and political actions. Universal human emotions become incased in a system of universal human values, which then become institutionalized, acted upon, and subject to reasoning processes. These values are something of worth and are to be preserved.6

Of course, all of the previously mentioned values can be found one way or another in sacred scripture, the history of customs and traditions, or squeezed out of rational models that philosophers, historians and economic thinkers have produced over the years. Jonathan Haidt, an evolutionary psychologist at New York University, in a book entitled The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom, has created an evolutionary view of morality by tracing its roots to a basic truth about human nature. Subscribing to the Brown thesis, he agrees that morality starts with emotions, which are adapted and become customs and traditions, and then formed into stated values, institutionalized and practiced by communities of people. Morality, then, becomes a set of standards (values, virtues,

ethical codes) that allow people to determine what is right and wrong. But the whole process begins with the basic emotions with which all people are born.

Professor Haidt begins his analysis by describing the most basic of universal human emotions: moral dumbfounding. The concept of moral dumbfounding describes the phenomenon of strongly feeling that something is wrong but not being able to define why. Activities such as incest, ingesting vomit, urine, feces or contaminated foods, or engaging in behaviors that are seen as not separating animals from human beings are all considered to be disgusting. Observing a healthy human being attacking a sick person with a stick for no reason evokes a sense of disgust and anger over such an action. The medieval practice of aristocratic landowner "first night privilege" directed towards a newly married yeoman or serf couple awakens the emotion of disgust. One's emotion of disgust in each of these cases is pronounced; it is a feeling or a sense that somehow doing such things is morally wrong. The sense of moral dumbfounding is a moral intuition established throughout evolutionary history before the creation of articulate human language. After the development of language people were able to effectively express why these kinds of behaviors were disgusting, and that led to systems of values and moral principles that could be used to make moral judgments.

After exploring the literature of anthropology and evolutionary psychology, Professor Haidt found five ingredients that define morality for most peoples throughout the world. The first ingredient is personal and public safety: a communal system, whether archaic or modern, requires a system of government and other institutions that protect its members from personal harm and outside attack. The second ingredient is language, and practices and institutions that promote reciprocity and fairness regarding human interactions within the community. The third and forth ingredients are loyalty to the community and respect for authority and hierarchy- a kind of social glue that holds the community together. And finally, the fifth ingredient is a sense of purity or sanctity for the community. The ingredient of purity simply means a personal moral sense that the community should refrain from acting like animals, should control selfish desire and act in the public interest, and follow the traditional moral principles of the community. These five ingredients of morality are universal and are represented in all civilized human communities.7

From the studies of these social scientists, and many others, it appears there is surfacing a scholarly judgment that there is something called a common humanity. That common humanity seems to partake of a set of universal values, a common culture, if you will, that moves people into a universal set of moral principles. Some of those values and moral principles are: personal and public safety, material well-being, social and economic equity, political democracy, cooperation, friendship, guilt and shame for wrong doing, self-control, communal unity and defense, rule of law, reciprocity and fairness (justice), conflict resolution, the need for social and political hierarchy and authority, and a recognition that selfish interests can be subordinate to the public interest. All of these universal human values are grounded on human

emotions and now have been studied by social scientists without going to the usual sources of scholarship: literature, history, philosophy, scripture and theological texts. Of course, these sources of knowledge about the human condition are excellent and are to be treasured and continuously used. There are many points of convergence between these non-scientific materials and the wellsprings of new knowledge coming from the social and biological sciences.

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What is the connection between the principles of good governance (personal, social, governmental, and economic) as found in the Qur'an and the universal human emotions and values as discovered by contemporary social and biological scientists? Is a moral community an oxymoron or a real possibility grounded on new scientific findings about human nature? Leaving aside the forms and procedures that a particular community would exhibit, what are some of the governing principles to which a moral community would need to conform? Please Note: I use the word "Man" and "He" in the generic sense as the terms relate to both men and women.

Qur'anic Principles of Good Governance, Science and a Moral Community

FITRAH

Under the guiding principle of Fitrah, man is a social and political creature. He, by nature, associates with other men. He, by nature, builds social, economic, and governmental institutions. These organizational arrangements are characterized by the principles of hierarchy, specialization of function, centralization of control, by formal rules of action, and by standardization of decision-making. Outside of an organization man is a cipher, within an organization (community) man has the possibility of achieving his potential: talents, propensities, abilities, and capacities. Human potential is God's gift to each man. For each man to achieve his potential is his gift to God. The principles by which organized human beings are to be governed individually, socially, economically and politically are found in the Qur'an. To follow those principles allows each man to achieve his potential. (See final endnote.)

Contemporary biological and social science has demonstrated that, through the phylogenetic process, Homo sapiens are social and political creatures. From families, clans, tribes, kingdoms, city-states, empires, and other organizational arrangements, human beings created ever more complex organizations. It is only within these arrangements that human progress can be made. Through natural selection certain human characteristics evolved, which allowed for the building of communities of ever more complexity.

James Q. Wilson, America's most respected social scientist, in his important book entitled The Moral Sense, demonstrates that "Nature has placed within all individuals the instinctive predisposition towards specific forms of virtue." These forms are: sympathy - "the capacity for being affected by the feelings and

experiences of others"; fairness - refers to a common sense of fair play, or "notions of preference, property, entitlement or equity"; self control - which is the "habit of controlling or moderating the bodily appetites"; and duty - which is the "disposition to honor obligations even without hope of reward or fear of punishment." These instincts or intuitions are central to the proper functioning of a complex society and they are products of the evolutionary forces of natural selection.8

To give a simple example of one of these senses or instincts at work, consider the instinct (emotion) of sympathy. Sympathy enables us to imaginatively put ourselves into the place of others and to sense their feelings, as life happens to them, as we would sense the same thing happening to us. We sense their fear, their happiness, their concern, and their disgust. This sense allows us to commiserate and understand where someone else stands in any situation and helps us make decisions as if we were in their shoes. This individual instinct builds a sense of community, we are in this situation together, and how he would react is the way we would react, and so the community reacts as a unit. This sense is a personal glue that holds the community together. The genes that give us this sense of sympathy are necessary for community survival and have adapted to different environments over the eons of time.

Evolutionary psychologists, through many experiments, have also scientifically found an important connection between the capacity of one human being to read the mind of another human being, and then to feel the sense or emotion of sympathy or empathy for others in the community. One such experiment, the Menzel Guesser-Versus-Knower test, was conducted on children within a variety of settings. Researchers discovered that children obviously did not know what each thought about various subjects, but they could observe what others know and what others have seen concerning a particular event. One application of the Menzel test went as follows: Child A hides chocolate in a drawer and then he goes away. Child A's mother accidentally moves the chocolate to another place. Where will Child A be looking for the chocolate when he returns? Will it be where the children know the chocolate actually is (where the mother put it) or where Child A last saw it (in the drawer)? Most children observing this scenario took Child A's perspective even though they knew their decision was wrong. The point: sympathy trumped fact. Sympathy overcame observation.9

An example of how natural selection has led us into community relationships, and drives us into even more complex organizational structures, relates to the morphology of the human eye. In all mammals, with the exception of human beings, the sclera, which is the white layer of the eyeball and is continuous with the cornea, is either black or very dark and this fact prohibits most mammals from seeing what the eyes of the other mammals are seeing and thus makes it very difficult, because of a lack of peripheral vision, for a determination of intention. Action and reaction to threat or opportunity is based on direct observation or reaction to the movements of the leader of the community. The human eyeball, on the other hand, with its white sclera allows others in the community to determine the intention of those being

observed and, given a wide peripheral vision, human beings don't have to rely only on instinct or the actions of a leader of the community, but rather can make an independent decision on how to react to a particular situation. This phenomenon then requires a collective decision making regime, which would become engaged with all of the attendant organizational needs and demands. The human eyeball is simply a reflection of the forces of natural selection pushing human beings into collective arrangements for survival and successful reproduction.

Of course, there are many other examples from contemporary biological and social science to make this simple point: man is by nature a social and political creature. Most systems of Western political thought subscribe to this point-of-view and certainly science is verifying what Islamic scripture makes clear concerning the governing principle of Fitrah.

AMANAH

Under the guiding principle of Amanah God endows each individual with talents, abilities, propensities, and the capacity to think and to understand. This great human potential guides each man when interacting with others, and the environment within which he lives. The relationship between man and God is one of Trustor (God) and the trustee (man). God creates man, gives him potential and resources, establishes the purposes of His creations, and then outlines the principles by which His purposes are to be carried out. Man becomes a trustee or agent with no power to change the nature of the trust relationship, but with great power and personal responsibility to implement the provisions of the trust arrangement. God is sovereign and man is the subject acting for and in behalf of God. The question is: has God endowed mankind with a natural attribute or characteristic that would allow him to successfully discharge his responsibilities as God's trustee?

Neurobiology is demonstrating that the emotion or feeling of trust (faith and confidence in the reliability and actions of someone else) is critical to the ongoing success of any society. Cognitive neuroscientists, using Functional Magnetic Resonance Imaging (FMRI) techniques that measure blood flow and oxygen levels in different parts of the brain, and Electroencephalogram (EEG) tests that, through sensors place on the scalp, record electric signals transiting through the brain, have demonstrated through numerous experiments that the human brain is "hard wired" to trust, at least initially, the actions of other people, and to be trusted to react affirmatively to the trusting actions of other people. Researchers have begun to uncover how the human brain determines when to trust someone and they are now finding that an ancient and simple molecule made in the brain – oxytocin – plays a major role in the process.

Oxytocin is a short protein, or neuropeptide, which is composed of nine amino acids, and is produced in the following areas of the brain: subgenual area of the anterior cingulate, the hypothalamus, the nucleus accumbens, and the amygdala. These four brain structures share three features: they have dense fields of oxytocin receptors,

which convey oxytocin's messages to nerve cells; they control emotions and social behavior; and they modulate midbrain dopamine release, which makes people feel good and so rewards and reinforces specific behaviors. Researchers are finding that in social, political and economic settings, where personal security and safety are provided, where life, health, personal freedom, prosperity, justice, and education are protected and promoted, are the very societies in which oxytocin levels in tested subjects are high and, of course, the opposite is also true. To put the point in another way, where the basic universal emotions of human beings are allowed to flourish, oxytocin levels are high, human potential blossoms, and community trust binds individuals together. There is a vast body of data on this point.10

In order to see what behaviors trigger the production of oxytocin, and therefore raise or decrease oxytocin levels, Paul J. Zak and Robert Kurzban of the Claremont Graduate University designed the Trust Game, which has been replicated hundreds of times during the last few years. The game is played as follows: subjects are recruited who earn $10 each if they agree to spend an hour and a half with the researcher. The researchers assign the participants randomly into pairs in which the two do not see or communicate directly with each other. Each pair is asked to make decisions about sharing their money with the partner. In each pair, one person is designated subject 1 and the other subject 2. Both persons in the pair are told how the game works. First, subject 1 is prompted by a computer to decide whether to send some of the $10 participation payment to the other person. The amount is then tripled in an account for subject 2. If subject 1 decides to part with $6, for instance, subject 2 will end up with $28 (6x3+10=$28), and subject 1 will be left with only $4. In the next step, the computer informs subject 2 of the money transfer and allows that person to return some amount of that money to subject 1, with the proviso that none need be sent back and the assurance that the participants' identities and decisions will remain confidential. Whatever money subject 2 returns is debited from his account on a one-to-one basis. No deception is permitted and the payments are actually made based on these choices. Immediately after the participants make their decisions, they are asked to provide blood samples so the researchers can measure oxytocin levels.11

The consensus view among neuroeconomists is that the initial transfer of money measures trust, whereas the return transfer of money gauges trustworthiness. The researchers have found that in about 85 percent of the time subject 1 game players sent some money to their partners. Of the partners who received the money, 98 percent then went on to return some money to their subject 1 partners. Interestingly, people typically could not articulate why they were trusting or trustworthy. But the researchers suspect that being trusted by a subject 1 would induce an oxytocin rise and that those who received a greater sum from their subject 1 partners would experience even greater oxytocin increases. The studies have found that subject 2 partners brains produced the oxytocin neuropeptide when they received money from their partners and thus felt trusted by those strangers. In addition, when people were shown greater trust in the form of more money, their brains released more oxytocin.

It was also shown that subject 2 partners with high levels of oxytocin were more trustworthy, that is, they sent more money back to their subject 1 partners who had trusted them in the first place. Receiving a signal of trust appears to make people feel positive about strangers who have trusted them. A possible evolutionary explanation for the strong release of oxytocin in these experimental settings is that human beings have a long adolescence and that natural selection favored people who could bond strongly with others over a long time, or at least until youngsters grew up and were able to manage on their own.

It seems that oxytocin is the communitarian neuropeptide. It is the brain molecule that binds families, clans, tribes, larger communities, and nation states together. Statistical studies and mathematical models of nation state communities have demonstrated that the social glue of trust is the strongest predictor of a countries' material wealth, personal and territorial security, educational attainment, scientific progress, democratic stability, labor-management tranquility, rule of law, and social justice. Countries with low levels of trust are poor with uneducated populations and unjust systems of governance, and the models display the primary reason: the inhabitants undertake too few of the long-term investments necessary to create jobs and raise incomes. Such investments depend on mutual trust that both sides will fulfill their contractual obligations.12

One could argue that God when creating mankind made sure, through the making of a communitarian brain molecule, that mankind would become a true trustee or agent for all of His creations. Man should understand that God has trusted him to be a good trustee, and that God given trust should be enough to inspire man to actualize this responsibility. The God given emotions with which human beings are born (see section one) all seem to lead in the direction of communities of people being trustees for each other and the larger society. Public safety, reciprocity and fairness, loyalty and respect for authority, and self-control and following the basic principles of morality, all require a degree of trust in each other and the collective. The neurobiologist would argue that through natural selection Homo sapiens developed the brain molecule called oxytocin, which was of critical importance for the development of ever more complex organizational arrangements, which in turn were important for the survival of the species. The game theorist might argue that Islamic scriptures are confirming what the game theorist has proclaimed as a true characteristic of human nature: it is natural to initially trust the actions of others, to be a trustee or agent in carrying out the purposes of the community, and to be trustworthy when responding to the trust others place in your activities. The Islamic scholar might argue that game theory is simply confirming what God has decreed in the Qur'an. Whichever argument one accepts the brain chemical oxytocin is one of mankind's most important attributes or characteristics and is critical for the formation and success of any society.

ADALAH

With the concepts of Fitrah, man is a social and political creature, and Amanah, man is God's trustee on earth, it would seem natural that the social and political arrangements surrounding an Islamic society, or any society for the matter, should be guided by the concept of justice, or Adalah. Justice is one of those words that summons up lots of meanings. From the Qur'an it is associated with Amanah. Man is God's trustee on earth and his responsibility is to carry out God's plan for the earth and for His greatest creation: Man. God's plan is for each individual to achieve his potential. Human potential can be achieved only within a just society. A simple but accurate synonym for the word justice is fairness. Assuming the existence of a government providing for the safety and security of the people, most would agree that the basic purpose of a just society is to create institutions that could do for the people what they could not do for themselves (social justice). A society guided by the ideal of justice would operate the government within the framework of a constitution and rule of law, and would operate institutions and processes so the people could make collective decisions on matters of general interest. This society would establish a system of courts where the government and individual citizens could plead cases before independent judges who have the authority to make binding decisions (procedural justice). This just society would provide institutions and processes whereby citizens could experience material wealth (economic justice); and where all citizens could achieve their talents and abilities (personal justice). There is nothing that I can find in the Qur'an that would negate this set of definitions for the word Adalah or justice or the more simple word: fairness.

The sense of justice (to treat others as you want to be treated) seems to be a natural attribute of the human condition. Neuroscientists, evolutionary biologists, and game theorists have often raised the question about the origins of our natural sense of justice or fairness. Is the answer to be found in culture, religion, or experience, or is there a genetic or evolutionary answer to the question? Sarah Brosnan, an evolutionary biologist and anthropologist, has suggested that the human preoccupation with being treated fairly by others has an evolutionary foundation. In studying brown capuchin monkeys, genetically close to human beings, she and her associate researchers found an advanced sense of fairness that led to strong social bonds and some cooperative behavior regarding food gathering and sharing. When, through a series of experiments, the monkeys were treated fairly future cooperation was assured, socially discordant behavior decreased, and group activity increased. On the other hand, when the monkeys were treated unfairly (giving food to some and not others) no cooperation occurred, the monkey community became discordant, and group life diminished. These activities sound very much like human reactions to being treated unfairly.13

Dr. Marc Hauser, a widely published neuroscientist, has suggested that justice (fairness) assumes the practice of reciprocity. Eons ago "reciprocal behavior was practiced [only] with genetically related individuals. The question is, how did the

brain evolve the mechanisms that led to a natural sense of reciprocity with ungenetically relate individuals? When I give you a $5 loan the expectation is that you will repay the loan. When I give you a piece of my orange why do you feel the need to give me a piece of your apple? Why does everybody get angry when someone crashes the long line at the movie theater? When your neighbor borrows your lawn mower why do you expect him to return it and to loan you his lawn mower when you need one? There appears to be no specific gene or part of the brain that would explain where justice (fairness), and its relative reciprocal altruism, reside, but the fact remains that the brain seems to be "hard wired" to react to actions that are fair (just) or to respond to actions that require reciprocity.14

The neuroscientist and game theorist Collin Camerer, in his book Behavioral Game Theory, has concluded through a number of experiments that the sense of fairness is one of the most important aspects of human behavior and critical to the functioning of a successful society. One game, the Ultimatum Game, plays out as follows: In this two partner game, one partner (A) is given $100 to divide as he sees fit with partner (B). Whatever the division of the $100.00 by partner (A), if partner (B) accepts it, both will be richer by that amount. If partner (B) rejects the offer then both players of the game receive nothing. If partner (A) suggests $90 for himself and $10 for partner (B) both are richer by that amount. If partner (B) is a rational, self-interested and utility maximizing, free willing partner, he will not turn down a free $10. However, after hundreds of applications of the game, it has become clear to the game theorists who practice this particular game, that the division where partner (B) receives less than $30, with partner (A) keeping $70 or more, will be rejected by partner (B). Since partner (B) is receiving free money why would in almost all cases partner (B) not take anything less than the proffered $30? In interviews and questionnaires, partner (B) respondents answered in unison - because it isn't fair! The researchers have concluded that the demands of reciprocal altruism and fairness require that the exchange partners be treated fairly. I will scratch your back if you will scratch mine. Exchange partnerships work only if partner (B) knows he will be treated with something close to parity. In other words, the moral sense of fairness is "hard wired" into our brains and is an emotion human beings seem to share with other primates. Trust and fairness seem to be an integral part of the human personality and natural makeup. No society can be successful without large doses of these emotions permeating the social, political and economic fabric.15

Science seems to confirming what the Holy Qur'an makes clear: acting justly is part of Amanah. The earth is for man's use and he must use it to expand and exercise his potential. That potential can be achieved only within a just society. A just society is one where all people are treated fairly by each other and by the government. Contemporary biological and social science is demonstrating that human emotions are in accordance with the strictures and requirements of Islamic scripture regarding the importance of embracing and implementing the principle of Adalah. The sense or emotion of justice (fairness) is a natural attribute of human nature. Being treated fairly by other people and the government leads to cooperative group life; reciprocal altruism and personal reciprocity create community stability; and,

the natural human emotion to trust, and not to be discriminated against, is an ideal difficult to attain but mandated by God and by the normal and common attributes of human nature.

The Moral Mind

The Holy Qur'an makes it clear that God created man out of "potters clay of black mud" and "breathed into him of My Spirit." Whatever God creates, including man, must be good. God "Breathed" into man His own spirit. Man must be, regarding his own basic nature, therefore, not only good but also as possessing some of the basic or inherent attributes or characteristics of God, all of which would be defined as moral. Today, neuroscientists are demonstrating that man possesses a moral mind, which seems to be an idea that is counterintuitive until one looks at the evidence.

Michael S. Gazzaniga, in his book Human: The Science Behind What Makes Us Unique, summarizes a vast body of scientific knowledge on the subject of the moral human mind. He begins by stating that there are about seven billion people on the planet today. If we assume that 1 percent are "rotten eggs" this means that seventy million people can cause real problems. If 5 percent are really bad people then three hundred and fifty million people are creating difficulties for the rest of humanity. The rest of us are getting along just fine, thank you. "We are left with the amazing fact that somehow at least 95 percent of us … possess some kind of common mechanisms that guide us through the social morass or complexities of everyday life." Why do human beings have an intuitive judgment about what kinds of social exchange are good and what kinds are bad? Many neurobiologists have investigated this question and there are a number of interesting answers.16

Professors J. Call and M. Tomasello have studied the notions of "intention" and "cheating" among primates, including Homo sapiens, regarding social exchange. We seem to intuitively grasp the difference between a social exchange, where a person is not reciprocating by accident, this is not cheating, and a person intentionally not reciprocating, and this is cheating. Call and Tomasello report that "Three-and-four-year old children will judge an action in a story of social exchange as being 'naughty' if the behavior was on purpose, but not if it was done by accident." They also have found, through their experiments, that "Chimpanzees can judge intention: when someone is trying to grab some food for them but can't reach it, they don't get upset, but they will get upset when someone can reach it but won't." It is through human intuition that judgment about whom to trust, who does not reciprocate by accident and who does not intentionally reciprocate, that human networks of social exchange are built, or the social glue that holds a society together dissolves. The moral mind seems to have an integrated sense of right and wrong regarding social interaction or exchange.17

Taking a cross section of scientific studies on the subject of the moral mind there seems to be forming a consensus that Homo sapiens are possessed by something called moral intuition or moral emotion, which is the driving force for successful group life. To put the point another way, human beings are emotionally equipped to make a moral decision but that decision can be changed by reason, and also by the will to do something immoral, but the standard of what is moral and what is not moral is a driving force in everyday life. Neurobiologist Robert Trivers has verified that the emotion that seems to prompt moral behavior is reciprocal altruism (if you do something for me I will do something for you).18 We tend to participate with those we trust and we trust those who engage in reciprocity. Michael Gazzaniga puts the point succinctly: "Individuals who didn't like being cheated and did something about it, and individuals who felt guilty if they cheated and didn't like the feeling, were the ones who were necessary to allow reciprocity to exist – by creating a society in which the honest would not be outnumbered by the cheaters."19 Political, social and economic exchange can successfully thrive only when the emotions of trust and reciprocal altruism are cementing human relationships.

As reported in the scientific literature, the basic moral emotions associated with reciprocal altruism are: sympathy, empathy, contempt, anger, guilt, embarrassment, shame, and gratitude. These basic human emotions are critical to a well functioning and moral society, and any kind of exchange within society would be impossible without them operating at a high level. Sympathy and empathy (putting yourself in someone else's shoes) lead to understanding and mutual cooperation; anger (emotional state of displeasure, indignation, and a need for revenge) leads to a desire to punish cheaters who are unfair in exchanges; contempt (disrespect for those who are hypocrites or don't fulfill obligations) leads to personal actions to address reasons for personal and community contempt; gratitude (emotion of contentment at punishment of cheaters) expressed in feelings of fairness; guilt (emotion of culpability for breaching standards of conduct) leads to adhering to community standards; embarrassment (emotion of discomfort because others are displeased with your behavior) leads to taking corrective action; and, shame (associated with guilt, humiliation and disgrace) leads to either corrective action or community rejection. This automatic processing of the emotions of reciprocal altruism is confirming the requirements of a successful and well functioning society: debts are paid, cooperation is assured, cheaters are punished; and, the important values of justice (fairness), trustworthiness, and social peace and security are practiced and assured.20

Contemporary biological and social science has revealed that human emotions are the foundation for values, and values are the basic building blocks for principles of morality, and morality is necessary for good governance of societal, political and economic systems of exchange in a vibrant and progressing society. The Qur'an reveals that God created man, gave him the moral emotions that guide his actions and decisions, authorized him to become a trustee for His purposes, and to govern all things with justice in order to provide man with a more moral community. Contemporary science and the Qur'an both attest to the possibility of human

emotions simply uncloaking what God and science know to be true of human nature: God's creation is constructed to live within peaceful, just, and moral communities guided by the principles of good governance as found within the sacred scriptures or identified by human experience, scientific knowledge and understanding.

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The great philosophers and theologians of Western civilization have argued ad nauseum about human nature. The Greeks and Romans wrote eloquently of the inherent human traits of reason, courage, spirit, passion, self-control, and duty. The Christian theologians of the Medieval period discussed the phenomenon of natural law, grounded on human reason and common inclinations, directing mankind to avoid evil and to seek the good: self preservation, family life, to know the truth, and to abstain from harming others. The period of "enlightenment" gave the West a secular version of the natural law, which celebrated human reason and its capacity to know what to do to preserve self and the community. In other words, man was born with an inherent nature that, if identified and acted upon, would create conditions for a continuously improving community life.

Another strain of Western thought emerged during the 19th and 20th Centuries that led to a completely different view of human nature. John D. Watson and B.F. Skinner, both psychologists, investigated the foundations for human behavior and argued that human beings were truly made of plastic, to be molded and manipulated, and were endowed with no inner core or inherent attributes other than the basic biological urges of the baser quality. People could be programmed by varieties of stimuli to respond in predetermined ways giving the instigator of the stimulus power over the individual and removing free will from human actions. Karl Marx, the 19th Century economist and political philosopher, summed up this stimulus/response psychology the best by writing in his famous long essay, A Contribution to the Critique of Political Economy, the following words: "The mode of production in material life determines the general character of the social, political, and spiritual processes of life. It is not the consciousness of men that determines their existence, but, on the contrary, their social existence determines their consciousness." It is through the economic or material forces of production that social relationships develop, which then create the basic aspects of social culture that cause men to think and to act. The point-of-view is clear: there is no human freedom but only social, economic and political forces conditioning human beings to think and act in predetermined ways.

This nature/nurture argument has been engaged generally using the instruments of human observation and statistics, the interpretation of religious texts using scholastic methods, or by philosophers, historians and philologists using hermeneutical methods. Although these methods and practices are valuable for understanding human nature they do not allow for the rigor of the new scientific

techniques for literally looking into the human brain to see what is going on when people sense, perceive, think, and act. Neurobiology (neuroscience), behavioral genetics, and game theory are using the following tools for observing the actions of human beings: functional magnetic resonance imaging (the technique for looking inside the brain and measuring blood flow and oxygen levels in various parts of the brain). This technique allows researchers to see which parts of the brain are operating when actions are taken. Electroencephalograms (a technique for tracing electric impulses through the neuro-circuitry of the brain) give scientists an opportunity to observe the movement of electronic impulses from one neuron to another neuron. Diffusion Tensor Imaging (a technique for observing molecules – water, etc. – moving along axons and dendrites) lets scientist look at tissue connectivity and the movement of hormones from one place to another in the brain. These new scientific tools are giving scientists an opportunity to see which parts of the brain serve which purposes for human action and are creating a new investigative frame of mind when thinking about the tricky subject of human nature.

Using these new empirical tools biological and social scientists are discovering the basic attributes and characteristics of human nature: there is an inner human core and part of that core nudges men towards moral behavior. What are some of the elements of that inner core that might be called human nature? First, given all of the differences in physical appearance and cultural practices, there is a kind of psychological unity based on a common set of emotions and values. Second, the human mind is a mechanism of astonishing intricacy and, even though it does not work perfectly, it does provide men with the instrument they need for survival. Third, the moral emotions and intuitions Homo sapiens possess do allow for improving social, economic and political situations. Fourth, men are social and political creatures: we do treat others on the basis of emotions and not by referring to some rational ideology. Fifth, we have a natural empathy for the misery and maltreatment of others and an aversion to the blandishments and rationalizations of the powerful. Sixth, we sense when we are being led down the road of totalitarianism by reformers who are denying us our natural pleasures as defined by our emotions. Seventh, our emotional intuition seems to naturally embrace the institutions of rule of law and democracy as forms of governance. Eight, the insights of the ancient artists, philosophers, theologians, and the writers of literature concerning the human condition seem to be confirmed by the findings of contemporary biological and social scientists. The new scientific frame of mind reflects the wisdom of the ages regarding human nature.21

CONCLUSION

Immanuel Kant once wrote: "Two things fill the mind with awe and wonder … the starry heavens above and the moral law within me." Contemporary biological and social science is confirming that there is a set of moral emotions and intuitions that constitute the inner core or inherent hypostasis of human nature. These moral emotions become the physical setting for the definition of values, virtues and

standards for human conduct. These standards of human conduct become ideals that are used to create the great systems of social, economic, and political philosophy and theology. From custom, practice, usage, and hard won experience, and from the application of the values, virtues, and standards of human conduct found in the writings of social and political thinkers, most systems of governance throughout the world have been constructed. Of course, war, economic collapse, crime, nation state conflict, ideological differences, and other forms of deviation from the standards of human conduct are part of the human condition.

The Qur'an makes clear that God gave to mankind the emotions that build the moral sense and intuition that lead to the values and virtues that constitute the foundation for good governance of personal and community life. Men are social and political creatures (Fitrah) possessing a moral sense; they are God's trustees (Amanah) on earth and so have moral responsibilities to each other, and to God; men are to exhibit in thought and deed the principle of Justice (Adalah) in their individual and social lives; and, they do share with all humanity the phenomenon of a moral mind, with all of its personal and social obligations. What the Qur'an makes clear contemporary biological and social science is confirming; namely, that human beings are equipped with the necessary tools to govern societies with justice and equity. When things go wrong it isn't human nature that is to blame, it is the selfishness of a few human beings who have violated their God given biological heritage.

ENDNOTES

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3. **As reported in: Lawrence E. Harrison and Samuel P. Huntington, *Culture Matters: How Values Shape Human Progress* (New York: Basic Books, 2000), XlX.**

4. **Harrison and Huntington (2000), xv.**

5. **Harrison and Huntington (2000), xxxvi – xxxvii.**

6. **Donald E. Brown, *Human Universals* (New York: McGraw-hill, 1991), 142. The examples used in this section of the essay are taken from: Michael Shermer, *The Mind of the Market: Compassionate Apes, Competitive Humans, and Other Tales from Evolutionary Economics* (New York: Times Books, 2008), 118-120.**

7. **Jonathan Haidt, *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom* (New York: Basic Books, 2006).**

8. **James Q. Wilson, *The Moral Sense* (New York: The Free Press, 1993), 29-54.**

9. **Frans de Waal, *The Age of Empathy: Nature's Lessons for a Kinder Society* (New York: Harmony Books, 2009), 98-99.**

10. **Two examples are: M. Kosfeld, M. Heinrichs, P. J. Zak, U. Fischbacher, and E. Fehr, "Oxytocin Increases Trust in Humans" *Nature* 435 (2005): 673-676; Elizabeth Piper, and P. Zak, , "Monetary Sacrifice Among Strangers Is Mediated by Endogenous Oxytocin Release After Physical Contact," *Proceedings of the National Academy of Sciences* (in press).**

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14. Marc Hauser, *Moral Minds: How Nature Designed a Universal Sense of Right Wrong* (New York: HarperCollins, 2006).

15. Colin Camerer, *Behavioral Game Theory* (Princeton, N. J.: Princeton University Press, 2003).

16. Michael S. Gazzaniga, *Human: The science Behind What Makes US Human* (New York: HarperCollins Publishers, 2008), 113-114.

17. J. Call and M. Tomasello, "Distinguishing Intention from Accidental Actions in Orangutans, Chimpanzees, and Human Children," *Journal of Comparative Psychology* 112 (1998): 192-206.

18. Robert Trivers, "The Evolution of Reciprocal Altruism," *Quarterly Review of Biology* 46 (1971): 35-57.

19. Gazzaniga (2008), 132.

20. Gazzaniga (2008), 132-137.

21. This argument is found in Steven Pinker, *The Blank Slate: The Modern Denial of Human Nature* (New York: Viking Press, 2002), xi.

<u>Final Note</u>

My understanding of the terms Fitrah, Amanah, Adalah, and a Moral Mind concerning the Qur'anic principles of good governance comes from: Abdullah Al-Ahsan and Stephen B. Young (eds.), *Guidance for Good Governance: Explorations in Qur'anic, Scientific and Cross-cultural Approaches* (Kuala Lumpur, Malaysia: International Islamic University of Malaysia Press, 2008).