

## Rationality, Psychology and the Evolution of Democracy

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**Abstract.** The fundamental, underlying assumption in economics, public choice, and increasingly in political science and other branches of the social sciences is that individuals are rational actors. Many people have questioned the realism of this assumption, however, and considerable experimental evidence seems to refute it. This paper builds on recent findings from the field of evolutionary psychology to discuss the evolution of rational behavior in humans. It then goes on to relate this evolutionary process to the evolution of political institutions and in particular of democratic institutions.

The fundamental, underlying assumption in economics, public choice, and increasingly in political science and other branches of the social sciences is that individuals are rational actors. This assumption has two components to it. First, that individuals have a set of preferences or goals, and second, that they will pursue these goals efficiently. If an individual wants  $C$  and she must do  $A$  to obtain  $C$ , she does  $A$ . If both  $A$  and  $B$  will bring about  $C$ , and  $B$  is less costly to do, then the rational person does  $B$  instead of  $A$ . Coupled to these two assumptions is usually and often implicitly a third – that the *goals* of an individual are in some sense rational or sensible. People want to stay alive, prefer to be well fed than to be hungry, more money to less, and so on.

These simple behavioral assumptions allow social scientists to build elegant models, which often make non-obvious and interesting predictions, which in turn, even more remarkably, are frequently supported empirically. Alas, however, the predictions of rational actor models are not *always* supported by the data, and sometimes their rejection can be quite

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spectacular. The prediction that people will not cooperate in a one-shot prisoners' dilemma game has been routinely rejected in laboratory experiments. Such everyday actions as voting, and buying stocks and insurance often seem to violate basic predictions of rational actor models. These refutations of the predictions of rational actor models have led many social scientists to question the underlying behavioral/psychological premises of the model, and have even led to a new sub-branch of economics called behavioral economics.

The rather strong assumptions of rational behavior that underlie neoclassical economics and its closely related fields are not only still fairly unique within the social scientists today – although gaining in popularity – but also quite rare when viewed over a longer time horizon and beyond the bounds of the social sciences. As Stephen Holmes (1995) has stressed, much writing by philosophers and social scientists down through the years – not to mention novelists, play writes and poets – has concerned the problem of *constraining the irrational*, destructive and even self-destructive emotions of individuals.<sup>1</sup>

This earlier literature and the recent empirical evidence rejecting rational actor models suggest that the underlying behavioral assumptions of economics and its sister social sciences need to be reexamined. In particular, more attention must be paid to the *psychology* of individual decision making. Section I of this paper discusses this question. Section II then takes up the specific question of how people learn and cultural institutions form. A key point stressed here is that differences in behavior and institutions across cultures do not differ so much in that some are rational and some are less rational or irrational, but rather some actions and institutions are predicated on better knowledge of causal relationships than others. In Section III, this point is illustrated with the examples of superstitions and religions. The topic of the evolution of religions and the state is taken up in Section IV. We pay particular attention in this section to the evolution of the state and democratic institutions of the state,

since these are thought to bring about superior outcomes in matching citizen preferences to the policies of the state (Sunstein, 2001, p. 6). The paper closes with a discussion of the possibilities of cultural convergence versus a continual *clash* of cultures.

## I. The Psychology of Individuals

### A. Behavioral

Perhaps, the simplest of all models of human psychology is that of *behavioral* psychology or operant behaviorism.<sup>2</sup> Operant behaviorism provides a theory of learning that is quite similar to the selfish gene account of natural selection. The theory of natural selection assumes that nature randomly distributes genes across individuals. Those genes that increase fitness and reproductive success are selected over those that do not. Operant behaviorism assumes that individuals randomly undertake actions. Those actions that are followed by rewards increase in frequency, actions followed by punishments decline in frequency. In the one case the environment selects for genes, in the other for actions. Operant behaviorism takes the assumption of narrow self-interest, that underlies most of economics, to the extreme. Individuals are assumed to be pure hedonists seeking rewards and avoiding pains. In this regard, the premises of behavioral psychology are quite compatible with those underlying the philosophies of Hobbes and Bentham.

Operant conditioning – rewarding certain actions, punishing others – has been used in laboratories to train rats to push levers, pigeons to peck certain buttons, and thousands of other animal tricks. It has been used in the home to get Rover to sit and fetch the ball, and to get Junior to eat his soup with a spoon and his peas with a fork. We are all creatures of habit committing many actions each day, like smiling and saying hello to people we meet, almost unconsciously, because such actions have been rewarded in the past.

Operant conditioning relies on a rather primitive cause and effect association in people's minds. Action *A* is followed by reward *B* and the individual associates the action with the reward and repeats the action. When action *A* does in fact *cause* reward *B*, this behavior is functional and thus accords with what we would expect a rational person, as conventionally defined, to do. Thus, well-conditioned individuals might behave *as if* they were *choosing* actions to maximize an objective or utility function. The well-conditioned consumer buys more of a good at a lower price, because she has been rewarded for such actions in the past. Rats in the laboratory behave as if they were maximizing a utility function that includes water as an argument. Rats, like humans, have negative sloped demand curves (Staddon, 1983).

Correlation does not always imply causation, however, and some actions are followed by rewards that they did not bring about. This possibility can explain why some habits are not functional or even harmful. A football player unconsciously dons non-matching socks on a day when he scores three goals, and from then on consciously chooses to wear non-matching socks. Millions of people consult the horoscope sections of their newspapers everyday to see what the stars have in store for them. On any given day, some of them will experience the good fortune forecast for them in the morning paper. They will "thank their lucky stars," and the habit of reading their horoscope will be reinforced and sustained. The pleasure a smoker experiences while smoking a cigarette maintains a habit, which in the long-run is deleterious to the health.

Thus, operant behaviorism offers a plausible account for much animal and human behavior. Its explanation for why people cooperate in prisoners' dilemma situations would be that they have been rewarded for such cooperative behavior in the past. The most successful way to try and induce an opposing player to cooperate in a repeated prisoners'

dilemma appears to be to adopt the TIT FOR TAT strategy (Axelrod, 1984) – reward cooperation in one period by cooperating in the next, punish non-cooperation in one period by not cooperating in the next. The TIT FOR TAT strategy might have been developed in one of B. F. Skinner’s laboratories.

### ***B. Cognitive***

Operant behaviorism does not appear to be able to explain all human actions, however. Although running away from a grisly bear and climbing a tree would be rewarded by staying alive, how would the first person who confronted a grisly have known to run? Many actions that individuals undertake appear not to be the result of past rewards for similar actions, but a result of a reasoning process in which the actor *foresees* the consequences of the action. An individual will learn not to hold her hand in a fire the first time she does so. But how does she know to run, or to move her camp when she sees the smoke from a brush fire in the distance? She seems to deduce that the smoke is caused by a large fire, that the wind is blowing the fire in her direction, and that she had better move if she wishes to escape the fire. Humans appear to be capable of cognitive processes that are far more complex than those presumed under the operant behavioral model. Any model of human behavior must allow for these cognitive processes.

### ***C. Evolutionary***

The most dramatic difference between humans and other animals – even other primates – is the relatively large size of the human brain. “The brain is a biological organ just like the pancreas, the liver, or any other specialized organ” (Ramachandran, 1990, p. 24), and like these other organs it has evolved to serve specific functions (Tooby and Cosmides,

1992, p. 7). Its main function is to process information, which could be used to help humans survive during the Pleistocene (Tooby and Cosmides, 1992, p. 66). It owes its size to the fact that during its evolution it has added one functional capacity to another – the ability to see and to recognize depth of field, the ability to sense danger (approaching a precipice, a snake), the ability to recognize faces, the ability to imitate and learn from others, and numerous more.<sup>3</sup> Thus, both its size and the way in which it functions are the products of natural selection.

An extremely important cognitive development in the brain was the ability to understand complex causal relationships, and to generalize about these relationships. The advantages for survival from such an understanding are obvious. The first person who stuck a stick into a desert cactus and obtained water must have been quite surprised. The action of piercing cacti to obtain water would be positively reinforced, and beneficial for survival. But so too would the capacity to generalize and deduce that if cacti contain liquids, so too probably do other plants and trees, and that some of these might also be tapped and put to good use.

An important complement to the brain's development was the development of language. The ability to communicate complex thoughts and commands with other individuals must have greatly facilitated cooperation among tribe members in hunting and warfare. Those with the biggest brains and the most sophisticated powers of reasoning would have had the highest probabilities of survival, and thus natural selection would favor large brains and genetically determined processes of reasoning within these brains.<sup>4</sup>

Of course, the reasoning processes that would have been favored would have been those that increased survival chances in a hunter/gather society. Much has been written about a human proclivity to cooperate being partially, genetically determined. Cooperation in

hunting large animals, or fighting other tribes could obviously increase chances for success and probabilities of survival. A genetic disposition to cooperate has been given as an explanation for individuals' seemingly "irrational" proclivity to cooperate in prisoners' dilemma situations.<sup>5</sup>

Unfortunately, not all of the mental processes that aid survival in tribal societies on the African savanna have positive value in a 21<sup>st</sup> century, post-industrial society. If a pickpocket takes your wallet, and you detect it, a instinctive reaction is irate rage. Many people will give chase to the pickpocket risking their lives from either a heart attack or a knife or bullet wound, even though the financial loss from the theft is rather modest. "Its not the money, but the principle of the thing." Having one's pocket picked or apartment burgled sets off in most people a violent reaction. They feel personally "violated," and they often react with violence. They often overreact.

For people living on the edge of survival, theft can be very costly. The loss of a bit of food may be the difference between life and death. A violent reaction to theft, to free riding and other forms of noncooperative people might well deter such behavior and increase survival chances. Such instinctive and uncontrollable reactions to theft are likely to be genetically triggered.<sup>6</sup>

A willingness to fight for, to kill for, and if need be to die for one's tribe would have increased the probabilities of the tribe's success in battle with other tribes, and to the survival of its members. Loyalty to one's tribe and animosity toward members of other tribes is also in part genetically determined.

But of course before one can defend one's fellow tribe members, one must be able to recognize who they are. This would have been easy 50,000 years ago on the savannas of Africa, but is less so in our polyglot societies of today. Race is an obvious clue, as is

language and religion, and history is replete with wars between societies that differ on the basis of race, language and religion. But even more subtle differences between groups can lead to strife. Dividing the boys attending a summer camp into two groups for the purpose of sports and other activities can lead to animosity and violent confrontations between those who were arbitrarily assigned red jerseys and those assigned blue. Even separating people by a coin flip can lead to strong loyalties among “the heads.”<sup>7</sup>

Most students of politics are familiar with James Madison’s discussion of the evils of “factions” in *Federalist 10*. Madison’s analysis was preceded, however, by David Hume.

As much as legislators and founders of states ought to be honoured and respected among men, as much ought the founders of sects and factions to be detested and hated; being that the cause and influence of faction is directly contrary to that of laws. Factions subvert government, render laws impotent, and beget the fiercest animosities among men of the same nation, who ought to give mutual assistance and protection to each other. And what should render the founders of parties more odious is, the difficulty of extirpating these weeds, when once they have taken root in any state. (Hume, 1758, p. 55).

Hume goes on to say that,

Factions may be divided into PERSONAL and REAL; that is, into factions, founded on personal friendship or animosity among such as compose the contending parties, and into those founded on some real difference of sentiment or interest. (Hume, 1758, p. 56).

As examples of factions based on personal differences, Hume cited “the remarkable dissension between two [Roman] tribes, the POLLIA and PAPIRIA, which continued for the space of near three hundred years (p. 57),” and “the civil wars which arose some few years ago in MOROCCO, between the *blacks* and *whites*, merely on account of their complexion ...” (p. 59, emphasis in original). Anticipating experiments conducted more than 200 years later, Hume noted,

When men are once enlisted on opposite sides, they contract an affection to the persons with whom they are united, and an animosity against their antagonists: And these passions they often transmit to their posterity. (Hume, 1758, p. 58).

In addition to a psychological identification to a group, Hume presented the following list of subrational motivations and passions to which humans are susceptible: “the intolerant adherence to abstract principle, inherited animosity, love of imitation, psychological infatuation with a leader ... craving for approval, anger, envy, fear, grief, shame, depression, melancholy, and anxiety.”<sup>8</sup> Virtually every item in this list is likely to be in part genetically driven.

Our genetic heritage can thus be regarded as somewhat of a mixed bag. On the positive side, we find our evolved big brains and cognitive abilities. We *are* capable of reasoning in a manner that would justify the assumptions of rational actor models, and the accumulated miracles of science attest to the scope of these abilities. Further on the plus side, we could add our innate tendencies to cooperate and behave altruistically.

But our genetic baggage also has its darker, more problematic side. Our group loyalties, cravings for approval, love of imitation and infatuation with leaders make us prone to racist and bigoted behavior; make us willing to follow a leader who tells us that we are better than others and to march off into war to prove our superiority. The challenge humans face today is the same one that they have always faced – how to harness the creative powers of the brain to make our lives better, while at the same time avoiding the self-destructive impulses that we all share? The remainder of this essay seeks an answer to this question.

## **II. Learning**

Scientific method adopts two alternative strategies: a *deductive* or an *inductive* approach. Under the deductive approach, one begins with a set of definitions and assumptions, follows a few logical principles, and derives certain theorems and predictions. Data appear at the very end of the process to test whether the predictions are corroborated by

the data. Under the inductive approach, one starts with the data and attempts to observe certain regularities in them. If one does, then one formulates certain hypotheses on the causes of the regularities, and makes certain predictions. One then returns to a new set of data to see whether the predictions are confirmed.

Although in many ways the dichotomy between deductive and inductive scientific methodologies is useful, it is also to an important extent misleading. The scientist who seeks to prove a new theorem about, say, a currency market, must begin by making some assumptions about the motivations of those who trade in the currency market, about the structure of the market (e.g., numbers of buyers and sellers, conditions of entry), and about the institutional structure of the market. The theorem is more likely to make good predictions, if it is based on accurate assumptions about these matters – that is, if it is based on good data of a certain sort. A pure theorist is not a person who eschews all data, but rather one who builds his theories on his own intuitions and personal observations. The greatest economic theorists – Adam Smith, John Maynard Keynes, Joseph Schumpeter – were first and foremost astute observers of human nature and market/capitalist institutions.

Similarly, a person who adopts the inductive approach is unlikely to get anywhere unless she starts with some set of hypotheses of the causes of the phenomenon that she seeks to explain. Imagine, for example, that you see a rabbit sitting on the lawn in front of your house. You go outside to take a closer look at it, and it runs away. What caused it to run away? The sound of the door opening; the sound of the television set that was playing inside the house and could be heard outside once the door opened; the sight of a human; your red sweater; your blue pants; the whistle of a train in the distance; the whistle of a bird in the tree; a message from the rabbit's mate or mother calling it home, a message sent at a wave length undetectable by the human ear. Without some knowledge about rabbits or similar

animals and hypotheses about what might make them run away, constructing an explanation for why it left would be a hopeless task – there are simply too many possible causal explanations.

David Hume recognized the crucial importance causal relationships in human understanding, and devoted large portions of both *An Enquiry Concerning Human Understanding* and *A Treatise of Human Nature* to the topic. In the *Treatise* we find the following discussion:

I find in the first place, that whatever objects are consider'd as causes or effects, are *contiguous*; and that nothing can operate in a time and place, which is ever so little remov'd from those of its existence ... . The second relation I shall observe as essential to causes and effects ... t'is that of PRIORITY of time in the cause before the effect. (Hume, 1739, Book I, Part III, pp. 75-76)

Hume's discussion of causality certainly captures the commonsense way in which humans will come to understand causality through everyday observations. A door opening thousands of miles away could not cause the rabbit to run. A door's opening could not cause a rabbit to run, if it opened after the rabbit had already left.

Cultural anthropologists speak of *abductive* and *deductive* causal inference. By abductive causal inference they mean that people learn by “putting forward conjectural assumptions that, if true, would account for the data observed.” Thus, abduction is induction in the service of explanation. “The main purpose of abduction is to make surprising data unsurprising by positing an assumption, of which the data would be a normal consequence.”<sup>9</sup>

As every good empirical researcher knows, correlation does not always imply causation. Determining when it does is often a difficult, sometimes an impossible task, however. What is difficult for the modern social scientist with a doctorate from a leading university must have been extremely challenging for her ancestors living 50,000 years ago.

A few members of a tribe happen across a berry bush that they have never seen

before. One eats some of the berries, and that night he dies. The surviving tribe members assume that his death was caused by eating the berries. A taboo against eating the berries from this bush arises and no tribe member ever eats its berries again. If in fact the berries of the bush are poisonous and the tribe member died from the berries, then the tribe has made a good inference. If it had been incapable of making this causal inference, and continued to eat the poisonous berries presumably all of its members would have died and the tribe would not constitute part of our ancestry. This example explains why human evolution has been accompanied by an expanded capacity for making *correct* causal inferences.

The causal inference in this example may have been incorrect, however. Perhaps, the berries were harmless or even highly nutritious, and the person died of an unobserved bite from a poisonous spider. The tribe would forego the beneficial effects of eating the berries, because of a false inference.

Thus, we can expect that our early ancestors made both correct and false causal inferences, sometimes mistaking spatial and temporal proximity for causation. Taboos and customs will have evolved which are both functional – that is based on a correct understanding of a causal relationship, which has beneficial effects on the community – and what I shall call *dysfunctional* – based on an incorrect understanding of a causal relationship, a misunderstanding which has *no* adverse effects on the community.

It is also possible that mistakes regarding causal relationships are made that are *dysfunctional*. The pleasure derived from smoking tobacco is immediate, and the native Americans who first began cultivating this plant hundreds of years ago correctly identified this causal link. The adverse effects of smoking on one's health appear only with considerable lag and have only been firmly established during the last 50 years. These examples lead us to expect that the mores, habits and culture of a particular community will

rest upon a series of causal inferences about the effects of certain actions. Some of these causal inferences will be correct, and the community will benefit from prohibiting a certain action, or from requiring that it be performed; other causal inferences will be incorrect, but will have no harmful effects on the community other than the fact that people will be forbidden to do something that is harmless, or required to do something that has no beneficial effects. Finally, there may persist a certain set of habits, customs and taboos that are positively harmful to the community. People are allowed or required to do things that injure their health or that of others. People are prevented from doing things that would either benefit them or other members of the community.

Scientific progress consists of rejecting false hypotheses and developing new, correct ones; of discarding false causal inferences and retaining correct ones. Cultural evolution proceeds in much the same way. As a community learns it discards its false causal inferences and adds to its stock of correct ones, the health and the welfare of the community should increase. Cultural evolution, as I shall define it here, consists in precisely this expanding stock of knowledge concerning correct causal inferences about the environment in which a community lives.

Scientific and cultural progress as just defined requires that it be possible to establish the validity of a particular causal relationship. Members of the tribe that bans the eating of a particular berry make contact with another tribe that eats and enjoys the berry. This leads some members of the first tribe to question whether it was in fact the berry that caused the person's death. One member of the tribe decides to eat some of the berries to test whether they are poisonous. She does not die, and more members of the tribe began to question the taboo against the berries. With time and enough evidence the taboo disappears.

There are certain causal inferences that cannot be tested, however, and thus can never

be verified or refuted. Mores and taboos that are based on these causal inferences are obviously going to be much more resistant to change. It is to an important class of these untestable causal inferences that we now turn.

### **III. Superstition and Religion**

Two tribesmen are chasing an antelope across the planes of Africa. It is hot and they have been running a long time. Suddenly, one of them falls to the ground clutching his chest and complaining of pain. After a few minutes he is dead. What caused his death? There must be a cause. People do not simply fall over dead for no reason. The deadman had not eaten or drunk anything just before dying, there is no sign of a deadly snake or spider bite. The surviving hunter has seen men die in battle when a spear enters their chests. Since the dead hunter clutched his chest in pain, something must have entered his chest and caused both the pain and the man's death. But what could have entered it, there is no cut or hole or other sign of anything entering? Something invisible must have entered his chest, like an evil spirit. But why did it choose to enter his chest and not that of the surviving hunter? Ah, the survivor donned a necklace that morning made of the horns of an antelope that he killed last week. The necklace had protected him from the evil spirit. Our surviving hunter is well on his way to inventing a theory about spirits that kill hunters of antelopes, and a protection against these evil spirits.

An important component of human evolution is the development of the ability to understand causal relationships. When an event occurs and there is an obvious likely physical cause – the dead person ate an unfamiliar berry shortly before dying – the event can be attributed to that cause. When no obvious cause for the event can be found, non-obvious causes are sought. These causes will be manufactured out of everyday human experience.

Spirits, ghosts, witches or gods are invented, which resemble humans or other animals. They kill by entering bodies, just as poisonous berries and spears do.

The following set of beliefs, although not universal, can be found in most societies from the earliest known tribes to modern post-industrial states (Boyer, 1994, p. 5).

1. The belief that “a nonphysical component of persons can survive after death and remain an intentional being.”
2. The belief that “certain people are especially likely to receive direct inspiration or messages from extra-natural agencies, such as gods and spirits.”
3. The belief that “performing certain ritual ‘recipes’ in the exact way and order prescribed can bring about changes in physical states of affairs.”

These beliefs arise as attempts to explain events that cannot be explained with the information and knowledge at hand. Since the known causes of events are familiar objects – the lion kills the antelope, rain causes grass and flowers to sprout, the sun parches the grass – causes invented to explain events for which no obvious explanation exists take on the shapes of familiar objects. To my knowledge no tribe or society has ever invented a god who was a heptagon or cylinder.

Once again the chance juxtaposition of events may lead to an inference of causality. A hunter finds a stone in the stomach of an antelope and soon thereafter has particularly good luck hunting. He attributes his good luck to a spirit lodged in the stone.<sup>10</sup> A tribe has particularly good luck hunting by a full moon and begins to pray to the moon. Hunting tribes frequently have had moon gods. Since hunting was carried out by the men of the tribe, the moon gods were male. Tribes that were more dependent on farming or gathering had sun gods, since the sun is more important than the moon for growing plants. Since tending crops and gathering was carried out by the women of the tribe, sun gods have been female.<sup>11</sup>

Humans love and hate, laugh and cry, and so too, therefore, do ghosts, spirits and gods. Some even make love and get drunk. Thus, although humans have invented supernatural beings to explain that which they could not explain by natural causes, having no first-hand knowledge of these beings they have endowed them with emotions and characteristics familiar to all humans. Supernatural beings are *intentional* beings with many of the same wants and desires as humans.

In humans' early history, a pressing want in most societies was having enough to eat and drink. Humans craved food and they assumed that their gods did also. Sacrifices of food were common religious rituals in early societies. Since food was scarce, the sacrificial lambs and grains would typically be eaten by the community as part of the religious ceremony (Harris, 1989, p. 415).

Meat was the primary source of protein in most societies, and meat was a favored sacrifice (Harris, 1989, pp. 418-9). Human sacrifices to win favors from the gods were also common. Children and prisoners of war were particularly popular. Neither are productive, and it is costly to feed them (Harris, 1989, pp. 422-25).

Humans, like sheep and cattle, are a good source of proteins, and thus cannibalism was common among early tribes, particularly where there was a shortage of large domesticated animals. The Aztecs provide an extreme example of this. They had no domesticated cows, sheep or pigs. Their main sources of proteins were insects, small rodents and a few breeds of fowl. The Aztecs craved proteins, and thus so did their gods. Aztecs sacrificed prisoners of war to the gods. The heart would be gut out of a live prisoner of war and while still beating presented to a god. The rest of the body would be eaten by the participants in the ceremony. The remains of hundreds of thousands of human sacrifices have been found in Aztec ruins. The Aztecs were a people continually at war. Both their war-like

nature and their religious practice of cannibalism can be explained by their need for proteins. The Aztecs provide a vivid example of how religions have adapted to meet needs of the community (Harris, 1989, pp. 428-36).

Religious rituals always have a particular goal behind them – success in battle, success in love, success in the hunt, to get well, to have a happy afterlife. To be effective, religious rituals must typically be performed by certain persons – a shaman, witch doctor, or priest. Each shaman had to have a certain bag of “wizard-of-oz tricks” to impress his clients. They were, therefore, a bit like magicians. Here again we see how the juxtaposition of events can give rise to an erroneous inference of causality. Following a particular ritual, *some* people will get well or have luck in the hunt, and this will reinforce the belief that performance of the ritual *caused* the event. Moreover, belief in the powers of the shaman may increase the confidence of the hunter and thereby the likelihood of success, or increase the belief of the sick person that she will get well. Modern medical experience shows that ill people who intensely believe that they will get well have higher probabilities of recovery (Harris, 1989, pp. 411-12).

Since religious rituals require a belief in the supernatural, shamans, witch doctors, and priests must themselves be *unnatural* in some way. When an epileptic has a seizure, he behaves in a most unnatural way, as if perhaps he were seized by a spirit. Epileptics frequently became shamans. Others became shamans because they could put themselves into a trance, or feign entering one. As religions evolved, shamans were replaced by priests who obtained their “powers of magic” through training and performing certain rituals.

Religious rituals can be thought of as both causal and abductive (Boyer, 1994, Ch. 8). Belief in the efficacy of religious rituals rests on three assumptions (Boyer, 1994, p. 240):

1. An assumption about a particular episode (e.g., “this is a properly performed instance of

ritual  $x$ ").

2. An explanatory conjecture about a particular person (e.g., "this person is a member of category  $y$ ").
3. A causal conjecture (e.g., "it is because this person is a member of category  $y$  that the person performed  $x$  successfully").

Since the purpose of every religious ritual – indeed of all religions themselves – is to *get* something (success at the hunt, a place in heaven), a shaman's ability "to keep his customers" depends in part on his ability "to deliver the goods." A long stretch of poor hunting or drought may rob a shaman of his followers.

To summarize, the challenge faced by every society is to understand the causal relationships present in their environment, and make use of this understanding. When the juxtaposition of events gives rise to a commonsense inference of causality, this inference is adopted. When no commonsense or natural explanation for an event exists, other explanations must be sought. Human societies have often invoked the supernatural to explain that which could not be accounted for by natural causes. Superstition and religion can be viewed as theoretical constructs for explaining phenomena for which no natural causes have been found.

Many events witnessed by early human communities, like a hunter's collapsing during a chase, or an eclipse of the sun, could not be given simple natural explanations, and thus were accounted for with the help of the supernatural. Natural explanations for these sorts of events exist in "modern" societies, and so they need resort to the supernatural less often than "traditional" societies. Differences in the theoretical systems of these two types of societies is the subject of the next section.

#### IV. The Theoretical Systems of Modern and Traditional Societies

In an extremely interesting essay, Robin Horton has contrasted the theoretical systems of “modern” and “traditional” societies, where by modern he means Western and by traditional, African, although the latter designation can also be applied to all tribal societies. Modern societies make considerable use of formal scientific methods to achieve an understanding of causal relationships, while traditional societies must rely to a greater degree on abductive methods. Both modern and traditional societies, however, possess “theoretical systems whose basic *raison d’être* [is] the extension of the magnificent but none the less limited causal vision of everyday commonsense thinking” (Horton, 1982, p. 201). In this section, I review both the commonalities and differences of the two sets of theoretical systems as set out by Horton.<sup>12</sup>

Both types of theoretical systems can be divided into two parts. *Primary* theory refers to the commonsense causal relationships people infer from the close juxtaposition of natural events, what I, following Boyer (1994), have referred to as abductive theory. Knowledge is accumulated through primary theory in much the same way in all societies and cultures. *Secondary* theory consists of the mental constructs that people employ to explain those phenomena that cannot be explained by primary theory. While primary theories are similar across cultures, secondary theories “possess startling differences ... between community and community, culture and culture” (p. 228). In one important respect they are similar, however – secondary theories in both systems rely on entities and processes that are in some sense “hidden” to the human observer, while these entities and processes are directly observable in the primary theories (p. 229).

The hidden entities in the secondary theories of traditional societies are ghosts, spirits and gods and thus are *personal* in the sense that they take on the shapes of humans or

animals, and are assumed to be intentional beings like humans and animals. In contrast, the hidden entities in the secondary theories of modern western society are inanimate objects and thus *impersonal* or *mechanistic*, for example, atoms, electrons, sound waves and gravitational forces (p. 229).

Horton also discusses the following important differences between cultures: traditionalist versus progressive; consensual versus competitive (pp. 238-48). In a traditionalist society, people believe that wisdom was discovered by the ancients and has been passed down to the present. This wisdom provides a true picture of the world, first because it has the authority of the ancients behind it, second because it has “withstood the test of time.” Its account of events is not so out of line with experience as to call the wisdom of the ancients into question. Edmund Burke, awkwardly born into the Enlightenment, is a perfect embodiment of a traditionalist.

Progressives place little stock in the teachings of the past. We know more today than we did yesterday, we will know more tomorrow, than we do today. Thus, progressives are inherently optimistic about man’s ability to acquire knowledge and about the future. Tomorrow will be a better day, because we will know more than we do now. Immanuel Kant’s (1795) *World Peace* captures this optimism perfectly, but many other works from the Enlightenment might be cited.

A consensual society reinforces the conservatism of a traditional society. With all members of society sharing a common set of beliefs, a common *Weltanschauung*, there is no one to point out the inconsistencies in these beliefs and their failures to account for certain phenomena. In a society in which belief systems and theoretical models compete, proponents of one system will be continually pointing out the inadequacies of their competitors, and all competitors will be striving to improve the performance of their theories in explaining and

predicting events. A more rapid accumulation of knowledge can thus be expected in a progressive and competitive system than in a traditionalist, consensual system. Horton goes on to claim that cultural homogeneity, as existed in pre-colonial Africa and medieval Europe, is more conducive of traditionalism than the kind of melting pot, frontier societies that existed in 6<sup>th</sup> century B.C., Greece or the Netherlands at the beginning of the Scientific Revolution (pp. 254-56).

I began this essay with a discussion of rational behavior and thus, perhaps, should conclude this section by commenting on whether traditional societies, with their superstitious and religious beliefs are less rational or might even be called “irrational” alongside their modern counterparts. This is essentially a semantic issue, but in this case I think that the semantics are important.

Today, we would say that a belief that the sun goes around the earth is “irrational.” We know that the earth circles the sun, and that it only *appears* that the sun is circling the earth. But 5,000 years ago, one’s only basis for judging whether the earth circles the sun or the sun the earth would have been our personal observations. *If* the earth were flat and stationary, and if the sun were circling it, then we would predict that the sun would be visible only part of the time, which is what we observe. Moreover, since no object would ever have been observed to remain in motion indefinitely, it would have been reasonable to further assume that some invisible spirit or god must be *pulling* the sun.

If the earth were circling the sun, we would expect to see the sun *all* of the time. The hypothesis that the earth was a ball, and was both rotating and circling the sun would have been difficult to formulate with the knowledge stock of 5,000 years ago. It would *not* have been *irrational* 5,000 years ago to maintain the hypothesis that the sun circles the earth, only erroneous. Today, we would probably call someone from an advanced industrial country

who believes that the sun circles the earth irrational. Why the difference? The difference is, of course, that our knowledge of the laws of gravity, physics and astronomy is much greater today than 5,000 years ago, as is our capacity to observe stars and planets in motion. To maintain the hypothesis today that the sun circles the earth is to discard overwhelming evidence to the contrary, and discarding factual scientific evidence is *irrational*.

Analogously, it would not be inherently irrational 5,000 years ago to believe that someone who suddenly died of no apparent reason had been entered by an evil spirit – or for that matter today in a traditional society. Man’s understanding of the causes of death was/is much weaker in these environments than it is in modern society today. Today, an autopsy can be performed and a *probable* cause of death determined. What would be irrational today is to assume that a middle-aged man who died while running a long distance in the sun, and was diagnosed as having had a heart attack, in fact died because an evil spirit entered him.

Superstitions and religions arise to offer explanations for the inexplicable, and predictions for the unpredictable. They arise in much the same way as other statements of causal relationships. As such their maintenance is not inherently irrational, any more than the belief that the sun circles the earth was irrational 5,000 years ago. These beliefs only become irrational to hold, as the evidence against them accumulates.<sup>13</sup>

## **V. Religious and Political Evolution**

In this section, we briefly examine the characteristics of a few representative societies with respect to the evolution of their thought systems and institutions.<sup>14</sup> I begin with the first known state.

### ***A. State and Religion – the Sumerian State***

In the 6<sup>th</sup> millennium B.C., a stocky, round-headed people who wore clipped hair and no beards lived in the highlands above the fertile crescent. These “Sumerians” survived by growing grains and herding domesticated animals. When their crops depleted the soil in one area, they moved to a different area. At some time during the 5<sup>th</sup> or 4<sup>th</sup> millennia, they migrated into Mesopotamia, “the land between the two rivers.” The Tigris and Euphrates flooded the plains between them periodically depositing silt to replenish the soil. Thus, it was no longer necessary for the Sumerians to migrate in search of fertile soil and they settled in Mesopotamia.

Mesopotamia was characterized by too much water at one time of the year when the floods came, and too little during the dry season. Perfect conditions for irrigation farming, and an elaborate irrigation system was developed in Mesopotamia, the first of its kind in the world. The division of labor in the early Sumerian society was that the men looked after the domesticated animals, and the women took care of the crops. Herders have much time to contemplate the heavens, and thus it is not surprising that a society like the Sumerians would develop both in astrology and astronomy. The Sumerians divided the constellations of stars into 12 parts, and it is to them that we owe the signs of the Zodiac that the Sumerians believed had predictive power - as do many people still today. It is reasonable to assume, therefore, that at some point in time one or more of these heaven gazers noticed a relationship between the position of the sun in the sky and the onset of the floods and dry seasons. This knowledge would then become the foundation for taking steps to regulate the availability of water for crops throughout the year.

One might expect that the bureaucracy governing the first known state in history would be loosely organized and inefficient, and that the development of efficient, hierarchical bureaucratic structures would have taken centuries. Such was not the case in the Sumerian

city-states. Bureaucracy was developed to a high degree, and controlled nearly every aspect of economic and social life. The entire society shared a set of morals, beliefs and expectations, which were determined by the religion as interpreted by the class of priests. The priests had evolved from being shamans who claimed to be able to predict the future by reading the stars. The state was an absolute monarchy with religion for an ideology. The king was god's representative on earth, and immediately beneath him were the priests. Together they ran the state with the help of a fairly large bureaucracy and a small number of scribes. The role of the masses was to serve god, which in effect meant to serve the king, since he was god's representative on earth. The power of the king was absolute.

The economy was based on agriculture. The class of priests with the help of the bureaucracy directed the planting and harvesting of crops. Harvested crops were taken to the temples to be stored and redistributed. Outside of the class of priests there was no private ownership of land, or much in the way of other private property, and little trade. The economy of the Sumerian city-state was what we would today call a command economy.

Carroll Quigley (1979, p. 193) described the Sumerians as "the most important group of humans who ever lived." There is much evidence that can be garnered to back up this claim. In addition to writing and an elaborate writing system, the Sumerians appear to have either invented or made important advances in agriculture (irrigation, the plow, wheeled carts, draft animals), metallurgy (brass and copper smelting), pottery manufacturing (the potter's wheel), transportation (the sail boat), astronomy and, of course, the state. These inventions can be attributed largely to progress made at the level of *primary* theory – observations made about natural phenomena. The secondary theory of the Sumerians was still based on religious beliefs, and thus can be said to have been largely personal as in less developed, tribal societies.

The Sumerian city-state survived anywhere from 800 to 1500 years depending upon one's choice of starting and ending points (Finer, 1997, pp. 127-28). Finer (1997, p. 29) attributes longevity in a state to a congruence between a society's belief system and its social and political structure. In the Sumerian city-state this congruence was as close as it could possibly become. "In no other antique society did religion occupy such a prominent position ... the religious ideas promoted by the Sumerians played an extraordinary part in the public and private life of the Mesopotamians, modeling their institutions, colouring their works of art and literature, pervading every form of activity."<sup>15</sup>

### ***B. The State without Religion – the Greek City State***

The salient characteristics of the Sumerian city-state were also to be found in Egypt, Persia and the other states of the ancient world – innovations in metallurgy, farming, engineering and the other practical arts coupled with an autocratic and bureaucratic state in which state leadership and religion were fused. While knowledge of the causal relationships that govern the natural world progressed and were exploited, fear and awe of the supernatural world remained strong and were exploited by the leaders of the state who often claimed to be gods on earth.

The great and unexpected rupture with this pattern occurred in ancient Greece. A society emerged around the Aegean Sea at about 800 B.C. that was unlike any that had come before and in many ways unlike any that has come since, a society which "had a totally new conception of what human life was for, and showed for the first time what the human mind was for" (Kitto, 1957, p. 7). They organized themselves into city-states, but except for their territoriality, they bore no resemblance to the city-states of Mesopotamia. They were democratic to a degree unknown until that time and almost unknown since.

## *1. Background*

As with every other ancient society, Greek society was formed by migrating bands which probably arrived in the Balkan peninsula around 2000 B.C. Over the next future centuries the Mycenaean empire arose, whose archaeological remains suggest strongly fortified cities with a warlike people. The Mycenae was invaded by Doric Greeks probably as early as 1200, and was fully conquered by them by around 1100, after which a “Dark Ages” ensued for roughly three centuries. The area occupied by the Greeks consisted of many islands, and even the mainland was broken up into pockets of inhabitable, arable land by its mountains, water and rocky terrain. Thus, the physical characteristics of the area that the Greeks occupied favored the development of small, isolated, fairly autonomous communities. In this respect, it is not surprising that the states, which appeared in Greece were small both in terms of geographic expanse and population. Their relative isolation, at least at first, also explains the wide variety of forms into which the Greek city-state evolved, from highly democratic Athens to autocratic Sparta.

## *2. Importance of rational thought*

A distinguishing feature of the Greeks was their “firm belief in Reason” (Kitto, 1957, p. 176). In ancient Greece, rational thought moved to center stage. We can identify the development of two, quite different variants of rational thought processes in Greece. The first approach places great faith in the power of pure *a priori* reasoning. Truth can be found by reasoning alone, and “knowledge” gained from the senses, from observing the real world, would only lead one away from the truth. Underlying the apparent complexity and variety that one observes in the real world lay a few, simple, universal laws which, when understood, would explain the workings of the universe. This line of reasoning led to the development of

the fields of both metaphysics and mathematics and to major contributions in each field. One need only mention the names of a couple of proponents of this approach – Euclid, Zeno, Pythagorus, Socrates and Plato – to realize the extent of its development and the importance of its contributions. Proponents of this approach can still be found, of course, among both philosophers of today and among the purest of the theorists within social sciences like economics.

Although pure *a priori* reasoning can take one to heights, which an empiricist could never reach, a wrong turn along a logical path can also lead one far astray. To give but one example, having discovered a relationship between sound and numbers, namely that a note one octave above another was created by a string half as long as that creating the first note, the Pythagoreans jumped to the conclusion that there must be a mathematical basis for everything – even religion and morality. Thus, the Good became the number one, Justice four, and other moral concepts appeared as higher squares of whole numbers.

The other variant of a rational thought process that can be attributed to the Greeks is what we call today scientific method – a succession of hypothesis formulation, testing, reformulation and further testing – logical inference informed by observing and gathering data from the real world. The first name here would, of course, be that of Aristotle, but we might also mention that of the great mathematician Archimedes. Even if we do not accept the story of his testing his famous principle of buoyancy by hopping into a bathtub, the usefulness of some of the inventions that followed from his ideas, like the Archimedes' screw, suggest a concern on his part with more than just the elegance of a mathematical proof.

Both pure deductive reasoning and deductive reasoning combined with hypothesis testing have in common that they seek answers for questions. The “Greeks, practical men

that they were, had a passion for asking useless questions” (Kitto, 1957, p. 178). Where did we come from? What is the world made of? What is virtue? Truth? Although other peoples had posed questions such as these before, none had posed so many or pursued the answers as far as the Greeks. Moreover, the Greeks did not seek answers to these questions through hypotheses about spirits and the gods. Greek thought deserves to be characterized as the first *modern* system of thought in that the elements in their secondary theories were inanimate objects and forces from the natural world, not spirits from a supernatural world. Here we might cite as just one example Thales, who posed in typical Greek style the question, “what is the world made of?”. The answer that he gave to this question “was based on nothing but abstract reasoning ... [completely free] from any form of religious mysticism, such as one might reasonably expect from a thinker whose predecessors had all expressed themselves in mythological terms” (Kitto, 1957, pp. 179-80). Although the answer that he came up with – water – has not withstood the test of time, the way in which he approached the question certainly has.

The Greeks had religion, of course, a form of polytheism. Its form stemmed from the fact that the Greeks were an amalgam of different peoples who had simply taken over the various gods of the different peoples who were absorbed into their culture. Greek myths and their associated gods offered answers to questions concerning the origin of the Greeks, the sun, the sea – questions that cannot be answered by simply observing nature, and for which the supernatural has often been invoked. At the beginning of their history these answers might have satisfied most Greeks, but as their powers of reasoning developed, they proved less and less satisfactory, and the Greeks began to offer mechanistic explanations based upon their reasoning about nature.

A Greek god was not a Supreme Being who could do no wrong and had to be obeyed

unquestioningly. Greek gods were “bigger than life” humans with the same passions and foibles as humans. Because they were human-like their actions could be measured by the same powers of reasoning as applied to man. “This form of religion induced the thinking Greek into something that Egyptians, Sumerians, Babylonians, Assyrians, and Jews were incapable of: applying rational and indeed secular calculation to nature and to man himself” (Finer, 1997, p. 328).

Greek religion reflected human weaknesses. It provided the Greeks with a theology of sorts, but unlike Judaism, not with a morality. The Greeks did not turn to the gods, therefore, for moral guidance, for they were incapable of providing it. Nor could they turn to an organized priesthood, for there was not any. Answers to the great moral questions they had to provide themselves with the help of their great thinkers like Homer, Aeschylus, Socrates, Plato and Aristotle. In this respect it is legitimate to call Athens a *secular* state for religion played no role in its public decisions. The Greeks would turn to the gods for help in battle *after* they had decided to go to war, but the decision to go to battle they made themselves in the assembly in which all citizens could and which a majority did participate.

### *3. The invention of democracy*

The Greeks’ penchant for asking questions helps to explain why it was they who invented democracy. Prior to the Greeks “states has just evolved ... [and] it was natural that authority should be ‘traditional’. In the latter [Greece] nothing was less obvious, and every change was questioned and its legitimacy challenged. The *polis* was an artifact and man was its measurer” (Finer, 1997, p. 329). This confidence in man’s ability to be the measurer of all things, to be capable of answering the questions that a society must answer is an essential presumption underlying democracy. No people have ever had greater confidence in man’s

ability to fulfill these demands than the Greeks.

The Athenian city-state of the 5<sup>th</sup> century is not only the first example of a true democracy, it is the first and to this day one of the few examples of a set of political institutions consciously designed and created to achieve a democratic objective. During the 7<sup>th</sup> and 6<sup>th</sup> centuries Athens was ruled in turn by various tyrants and aristocratic oligarches. As wealth accumulated, various factions formed among the aristocracy based on tribal lineage, geographic location or occupation. These factions engaged in the kinds of distributional struggles that James Madison described so well in *Federalist* 10. Today we would term these factions “rent-seeking coalitions.” Toward the end of the 6<sup>th</sup> century Cleisthenes, himself an aristocrat, put an end to the divisive rent-seeking “by inventing a preposterous paper-constitution which in fact worked perfectly” (Kitto, 1957, p. 106).

The genius in Cleisthenes’ design was to break up the existing coalitions into ten divisions (*phylae*) that cut across the previous ethnic, economic and geographic lines. Each *phylae* in turn was broken into several smaller units called *deme*. Citizenship was largely based on heredity, but was not automatic. Citizenship was granted first of all in the *deme* and then extended to the polity as a whole, and thus, because of their small number, members of a *deme* could easily determine whether a son of one its members upon reaching the age of 18 deserved being granted citizenship.

Each *phylae* was named after an Athenian hero, had its own corporate identity, its source of revenue from rents, its own assembly (Finer, 1997, p. 344). Thus, Cleisthenes’ constitution introduced a decentralized structure, which gave each citizen a greater incentive to participate in the democratic process. Moreover, because membership in each *phylae* cut across ethnic, class, economic and geographic lines, each citizen’s welfare was tied under this constitution to that of the greater community rather than to a narrowly defined faction or

interest group. Cleisthenes' constitution changed individual incentives away from zero-sum redistributions to positive sum games.

The Greeks thought of themselves as different from all other peoples, different not in the sense that they had a privileged relationship to God, as the Hebrews thought they had, but in the sense that they had a privileged relationship to one another – they were Greeks and not barbarians (non-Greeks). And what was distinctive about being a Greek? He was a free man, free not necessarily in living in a democracy, but in the sense of being a citizen who had certain rights, who was ruled by laws. “Greek Tragedy is built on the faith that in human affairs it is Law that reigns, not chance” (Kitto, 1957, p. 176). Moreover, the laws that reigned were not dictated from above by a God or a sacred king, but arose from the collective decisions of the citizens themselves. The Greek citizen was free to seek redress from the courts if he felt that he had been injured, and defend himself in front of the courts if he was accused of injuring someone else. And there he would be tried by juries of his citizen peers.<sup>16</sup>

#### *4. Appraisal*

“This [the Greek] polity is extraordinary. It was a miracle of ingenuity and design, one of the most successful, perhaps the most successful, of political artefacts in the history of government” (Finer, 1997, pp. 367-68). It is difficult not to share Finer's judgment. When one contemplates the contributions that the Greeks made to architecture, astronomy, mathematics, philosophy, science, sculpture, arts in general, and theater, one stands in awe. All of these can be explained by the fact that for the first time in human history, man's mind was freed to follow whatever path it chose free from the constraints imposed by superstition and religion. Of all the Greek contributions to human history, the most important was the

demonstration of the potential of rational thought, the power of *reason*.

The Athenian society personifies the modern society in its progressiveness and competitiveness. The Greeks were optimistic about the potential of man to reason and about his potential for self-government. Today the United States epitomizes in many respects the triumph of Western modernism in its democratic and capitalist institutions, in its scientific and technological progress. Yet, the suggestion that the knowledge of political institutions possessed by the present generation should allow it to write a better constitution than the Forefathers wrote over 200 years ago is generally greeted with much scepticism – *particularly among political scientists*. For the Greeks, the novelty of Cleisthenes' constitution was, if anything, a point in its favor, such was the confidence of the Greeks in the creative powers of the human mind, and enthusiasm for that which was new (Kitto, 1957, pp. 106-07).

The progressivism of the Greeks was equally matched by their competitiveness, particularly in the realm of ideas. The Platonists, Aristoteleans, Stoics, Epicureans, and Sceptics all competed in offering answers to the great questions of who we are and how we should live. Practitioners of pure, abstract reasoning competed with empiricists in trying to explain the natural world. The vibrance and innovativeness of intellectual life in Ancient Greece is symbolized by the fact that so many of our words for these bodies of thought – metaphysics, stoicism, empiricism – are of Greek origin.

### ***C. The Chinese State***

Although our primary interest is in the evolution of thought and institutions in the West, the importance of the distinction between progressivism and traditionalism is not confined to this part of the world as we shall illustrate with a brief look at the Chinese state.

## *1. Origin of the State*

The Chinese state was formed in much the same way as the Sumerian state – by tribes migrating into a river valley, in this case the Yellow River. Although legends tell of great kings living in China before the Shang kingdom (1766-1122), it was this one that invented writing and thus, *history* of the Chinese state begins with it. Cities also appear during the Shang kingdom as do other inventions of the Sumerian city-state like bronze casting and the chariot.

## *2. Confucianism*

The “Spring and Autumn” period between 722 and 481 was one of considerable turmoil with continuous warfare among the various Chinese kingdoms. Apparently troubled by this instability, the scholar Confucius (551-479) wrote various texts that proffered advice as to how to end these conflicts. He then set out to visit the courts of different monarchies in an effort “to sell” his ideas to him. He does not appear to have had great success in his lifetime, but his teachings along with those of his followers did have great influence on later political leaders in China and the eventual structure of the Chinese state.

Confucius’ main message was that the warring states had to reclaim or rediscover the wisdom of an earlier, idolized era. A message which, in a tradition bound land characterized by ancestor worship, found a certain resonance. Finer (1997, pp. 458-59) identifies four main elements in Confucian thought.

1. Mankind is divided into “superior” and “mean” men. Superior men follow what essentially amounts to the “golden rule” and cooperate with other men. Only by becoming a superior man does one become fully human. Everyone possesses the potential for becoming a superior man, but few realize this potential.

2. Men achieve their humanity through education.
3. The family is the supreme institution of society. Sons owe respect to their fathers; the wife to her husband; the younger brother to the older brother; the younger friend to the older friend; all members of the family owe respect to the ruler.
4. Good government is based on its having good rulers, not good laws. Good rulers are themselves virtuous and choose virtuous ministers.

An implication of 1, 2 and 4 is that ministers should be chosen on the basis of their educational accomplishments, i.e., that the ideal state should be a meritocracy.

### 3. *Legalism*

A second reaction to the anarchy of the “Spring and Autumn” period was the development of the philosophy of *legalism*. Legalism was entirely antithetical to Confucianism. It derived no wisdom from the past, and ridiculed filial duties. The legalists were

forward-looking, practical and ruthless ... [they] viewed the mass of humanity as irrevocably stupid and base and susceptible only to the carrot and the stick. Theirs is a philosophy of power vested in an absolute monarch who rules by severe punishments, through iron codes of law which apply to high and low alike, without any exceptions save the ruler himself, since he alone makes the law and therefore only he is dispensed from it. (Finer, 1997, pp. 466-67)

A more cynical view of human potential is difficult to imagine, and it led naturally enough to a philosophical underpinning for absolute despotism. Thus, although the legalists were not traditionalists who placed great stock in the wisdom of the ancients, they did advocate a homogeneous state whose conventions and institutions were dictated from the top. The ruler was bound by neither laws, since he made them, nor ethics, since it had nothing to do with politics. And what was to be the substance of the laws that the ruler promulgated? These were to be “directed solely at the benefit of the state as a whole”(Finer, 1997, pp. 468).

#### *4. The Han Empire*

The advice of the legalists was put into practice during the Ch'in state (361-206) from which China derives its name. Of more interest for us, however, is the Han Empire, which followed it and lasted for more than four centuries, because "the Han Empire ... set the pattern for all future Chinese government up to and including the present day" (Finer, 1997, p. 524). And what was that pattern?

The Han Empire established a large bureaucracy to administer a highly centralized state. In this its chief innovation was that the bureaucracy was filled with educated scholars. Here we see the influence of Confucianism. But the empire also had a rigid and harsh legal code thus reflecting the influence of legalism, and functioned as a two-stratum state. At the top were the educated bureaucrats, a kind of aristocracy of the intelligentsia. At the bottom were the illiterate masses deferring to those of rank, obeying the legal code. Each person knew her position in society, to whom she owed obedience, and who owed obedience to her. Thus, the Chinese state came to embody the traditionalist perspective of Confucianism and the non-competitiveness of legalism. These characteristics in turn explain why, despite some very important, early technological innovations, science and scientific methods did not develop in China. It became a laggard in both technological and political innovations. The Chinese state, of which the Han Empire was an embodiment, can be classified as an "organic state" in which individuals qua individuals do not appear. In the Chinese state "the prevalent belief systems, and the social structure all came to support one another as never since the high days of Mesopotamian and Egyptian government and emphatically as never in the West" (Finer, 1997, p. 442). This mutual reinforcement of ideology and social and political structures explains the great longevity of the Chinese state, but also its total lack of innovativeness.

#### ***D. The Spread of the Non-killing Religions***

With the replacement of personal theories of causality at the secondary level with mechanistic theories in which the key elements are inanimate objects of nature and the invention of democracy, the Greeks can be said to have inaugurated the modern world. As far as its religion was concerned, however, it remained firmly entrenched in the ancient world with its pantheism, and animal and other food sacrifices to the gods. These sorts of *killing* religions as practiced by the Sumerians, Egyptians, Persians and Greeks were to be replaced by the great non-killing, or so-called modern, world religions, which forbid the killing of humans and animal and human sacrifices.<sup>17</sup>

Since the non-killing religions forbid killing, one might have expected that their spread would have brought an end to interstate warfare. But such was not the case. The non-killing religions are soon coopted by the state. They benefit the ruling classes by substituting rewards in heaven for comfort and sustenance on earth. With the adoption of a non-killing religion, the state need no longer feed its people. Although the non-killing religions forbade killing, they allowed exceptions for just wars. The first *militant* Buddhist kings appear as early as the 2<sup>nd</sup> century B.C. in Sri Lanka (Harris, 1989, p.449). Wen, founder of the first Buddhist empire in China, the Sui Dynasty (589-618), remarked that “Buddhists made excellent soldiers, because of their faith that death in battle would only draw them closer to paradise”(Harris, 1989, p.450). Thus, the non-killing religions produced better warriors, because they reduced the fear of death through the promise of heaven (think of the suicide terrorists today). “Indeed, were it not for their ability to sponsor and encourage militarism and harsh measures of state control, there would be no world religions in the world today” (Harris, 1989, p.448).

Thus, instead of bringing an end to wars, the non-killing religions introduce a new

kind of war – the religious war. Hobbes in his lament about the English civil war, noted that no such war existed in the ancient world. One needed Christianity and the goading of Presbyterian preachers to produce a civil war over religion.<sup>18</sup>

### ***E. The Rediscovery of Reasoning***

Over the course of the first millennium following Christ, Christianity became the dominant religion in Europe. Like all religions, Christianity is animistic. The souls, saints, angels and devils of Christianity replaced the evil spirits, ghosts, fairies, cherubim, demons and jinni of early religions. Its three gods rolled into one replaced the multiple gods of the pagan Greek and Roman religions. The celebration of the mass with the distribution of the Eucharist and wine replaces the animal sacrifices and redistribution of food in early Judaism (Harris, 1989, p. 441).

Christianity's secondary theory is animistic and personal like that of all religions, and thus with its rise the kind of reasoning introduced by the Greeks disappears. The Europe of the first millennium is a traditionalist society looking backwards at the wisdom of the Bible, Christ, and the Apostles. There is no competition among schools of thought. One ideology – Christianity – dominates all thought.

Then, around 1200 A.D. an awakening begins to take place. The writings of the Ancient Greeks are rediscovered. Technological advances, like the development of the telescope, reveal glaring disparities between what one can observe in the world and Church dogma. Undoubtedly, the intellectual awakening of the Renaissance was fueled in part by the spread of commerce and the increasing mobility in Europe. Venetian, Genovese, Portugese, and Dutch traders were sailing to all corners of the globe and being exposed to new technologies and ideas. Representatives of different religions were coming into contact in

southern Spain.

Naturally, the Church resisted this onslaught against its dogmas. Copernicus' theory that the earth circles the sun was opposed by the Church, and Galileo famously was forced to recant this theory. But, once released, the onslaught of intellectual activity could not be held back. Eventually it even entered the realm of metaphysics. One scholar after another – Descartes, Spinoza, Berkeley – offered up a new proof of the existence of God. Descartes' contribution was truly revolutionary. If a thinking man sitting in front of the fire in his bedroom could prove to himself by logical reasoning that God exists, then God exists. No appeal to a holy book or the wisdom of a long-dead holy man was needed.

Once competing theories of God's existence began to appear, it would not be long before proofs of his non-existence begin to appear. By the Enlightenment, Hume, Voltaire and its other great thinkers were using their analytic powers to cast doubt on virtually all of the teachings of the Church – the existence of miracles, angels and devils, saints and souls – although they generally stopped short of claiming flat out that there is no God.

The Enlightenment has also been aptly named the Age of Reason. At no other time in history, and no other place than Europe and the North American colonies, has trust in the powers of reason, trust in the potential of the human mind been so strong – except perhaps for Ancient Greece. Although democracy first reappeared appropriately enough in Renaissance Italy, it was not to take firm root again until the Enlightenment. The boldest break with tradition and clearest assertion of man's right to and capability for self-government occurred in revolutionary France. But it was the Americans, of course, who actually designed and implemented a set of political institutions that allowed citizens to govern themselves.

It was also during the Enlightenment that the systematic application of scientific

methodology to the study of human behavior can be said to have begun with the writings of David Hume and most importantly Adam Smith. Once launched, economics developed rapidly during the 19<sup>th</sup> century and was eventually joined by the other social scientists.

## **V. An End to Evolution? – The Clash of Civilizations**

If one had sat down at the peak of the Enlightenment in late 1789 and surveyed the historical and intellectual developments up until that time in the West, and then tried to predict its future development, one might have made a rather optimistic set of predictions. Reason had finally triumphed over superstition, and continual scientific and technological progress could be expected. Adam Smith had convincingly demonstrated the advantages of free markets, and an end to mercantilism and government interference in markets might have been expected with an accompanying spread of prosperity. Religion's hold on the minds and passions of Europeans had loosened, and one might have expected an end to religious wars. The Americans had freed themselves from the British monarchy and introduced a novel form of representative government. The French people were in the process of freeing themselves from their monarchy and had expressed inspiring democratic goals for their country. Moreover, the example set by the West might well have been expected to inspire peoples in other parts of the world. In the autumn of 1789, one might have expected that reason, science and democracy would gradually spread around the world.

Looking back from the vantage point of the 21<sup>st</sup> century, it is obvious that these expectations would have been overly optimistic. Although democracy did survive in the United States, the French Revolution merely opened the door to a new form of tyranny. The monarchies of Europe did gradually cede power to democratically led parliaments, but in other parts of the world the widespread introduction of democratic institutions would have to

wait until the middle of the 20<sup>th</sup> century. Over half the population of the world has still to experience the benefits of democratic government.

Although religious wars more or less have come to an end in the West, America's Civil War and World Wars I and II proved that group passions could still be aroused in the name of nationalism. When one thinks of the trouble spots of the world over the last 20 years – Bosnia, India, Iraq, Israel and Kosovo – religion has typically been an important if not *the* important factor. Here it is perhaps worth noting that these conflicts do not all involve Islam versus the West. In India, the conflicts have been between Moslems and Hindus. Today in Iraq, Sunni Moslems kill Shiite Moslems, because they regard them as apostates. Even in Europe, Catholics and Protestants in Northern Ireland seem able to find their differences in beliefs important enough to kill for.

Thus, Reason's triumph over Superstition has been no where near complete. Although most Europeans do not attend church regularly, a majority expresses a belief in God and claims membership in some religious sect. In the United States, 94 percent of the population claims to believe in God, and nearly a third expects Jesus to descend from Heaven and take them back there with them (Harris, 1989, p. 462), many moslems await "the twelfth imam" who is supposed to do the same for them. In Iran the state and religion are fused, and the state's leaders use religion to maintain control over the population. Iran is a traditional, homogeneous society whose people have little freedom to choose their leaders or even the clothes that they wear. Iran today resembles more closely the Sumerian state that existed nearby over 3,000 years ago, than it does a modern Western democracy.

It is difficult to believe that anyone could come away from reading David Hume's essays "Of Miracles," "Of Providence and a Future State," and the *Dialogues Concerning Natural Religion* and still be a devout Christian, or a member of another religion for that

matter. Why have the critiques of religion by Hume, Voltaire, Bertrand Russell and so many others not had a greater impact in weakening religious faith? One obvious answer is that too few people have read these critiques. A second answer is that religions continue to claim to offer answers to “the great questions” – where do we come from, where are we going after we die? Although modern science has developed theories that can explain the evolution of the universe and our place in it starting with a universe filled entirely with hydrogen atoms, we still, to my knowledge, do not have a widely accepted theory of the source of these atoms, or for that matter how life began. There is still a small role left to be played by God the Creator. Few people look forward to dying and entering a black, eternal abyss. The thought of dying and rejoining one’s parents and other deceased friends in a state of eternal bliss is infinitely more comforting. Many are presumably attracted to religions, because they offer these comforting thoughts.

To the extent that people seek comfort in religions for these reasons, they are – like beliefs in the predictive powers of the signs of the zodiac – fairly harmless and perhaps even bring with them certain psychological benefits. But for many, religion means more than just a belief in an afterlife and a hypothesis about where we come from. For many religion provides a code of conduct, a set of commandments, which are to be followed not only by the believers in the religion, but all members of society. In this form religious beliefs can impose costs on the rest of the community, and can be truly dangerous.

Religious fundamentalists exert great influence on U.S. governmental policies today. The fundamentalists oppose the use of birth control devices on the grounds that they interfere with God’s plans as to who is to be born. Despite overwhelming evidence that the use of condoms can prevent not only unwanted births but also the spread of Aids, the United States, the Vatican and a few Moslem countries stand alone in advocating abstinence from sexual

intercourse as the *sole* preventative against the spread of Aids.

Christian fundamentalists in the United States are strong opponents of abortion *and* strong advocates of the death penalty for murder. This seeming inconsistency is easily explicable once one considers what Christian fundamentalism entails. Fetuses are “innocent persons,” whom God has chosen to be born. Convicted murderers are evil persons destined for hell and the sooner they get there the better. U.S. foreign policy in both Iraq and Israel is heavily influenced by religious fundamentalism. The bias in favor of the Jews against the Arabs in Israel is explained by an odd coalition of American Christian fundamentalists who wish to keep Jerusalem in Western possession for the day when Christ returns to take them back with Him, and American Jews who sympathize with Israeli jews. U.S. policy in Iraq and Israel feeds hatred of Americans by Moslems around the world thereby undermining the so-called War on Terrorism.

The First Amendment of the Bill of Rights in the U.S. Constitution, the U.N. Charter of Rights, the European Union’s Charter of Fundamental Rights, and most modern constitutions protect the freedom to practice one’s religion. Given the number of religious wars and persecutions that have taken place during the course of history, such protection is easy to defend. At the same time, however, we should recognize that the protection and fostering of religious beliefs comes at some cost. All religions present theoretical explanations for causal events that rely on mental constructs that are alien to the theoretical explanations of causal explanations that underlie Western scientific thought. They invoke spirits and gods to explain events rather than develop theories of how inanimate objects behave and interact. The course of history has demonstrated that the second approach to acquiring knowledge is far superior to the first in accounting for natural events. Contrary to past and current teachings of the Church, we now *know* that the earth circles the sun rather

than the reverse, that humans have evolved from “lower” forms of animal life, and that advocating the use of condoms is more effective in preventing the spread of Aids than advocating abstention from sex. Religion has been conclusively shown to be inferior to normal scientific procedures as a way of gathering knowledge.

What separates humans from other animals is the relative size of our brains, and our capacity to reason with them. Our brains have evolved to such size, because they allow us to understand and control our environment better. Such understanding has come about by applying the impersonal and mechanistic theories that we now associate with standard scientific methodology. The intellectual history of humans consists of a constant struggle between those promoting the impersonal, scientific study of nature as a method for acquiring knowledge on this earth, and those guided by superstition and religion whose main concern is life after death. In this respect there *is* a fundamental clash between the West and the rest, but it is not between the West and Islam or between the West and any other specific religion. It is a clash between the modern, Western approach to gathering knowledge about nature through the application of impersonal, scientific methods, and the traditional, personal approaches that invoke, spirits, myths and gods to explain that which is unknown. It is a clash between those who have faith in progress and in man’s powers of reason and his ability to gather new knowledge, and those who place their faith in the wisdom of the ancients as written down in a Bible, Koran or some other holy text, and as interpreted by those few whom God has selected to speak for Him. The stakes in this battle for the minds of humans are high today as they have been in the past. In this battle, those who favor progress and the powers of reason *should be intolerant of all religions*, for it is they that present the greatest challenge to human progress and well being.

## Endnotes

- 1 See, also, Hirschman (1977).
- 2 Operant behaviorism is the term used to describe the branch of psychology launched by B. F. Skinner. See, Catania and Harnad (1988).
- 3 See, Tooby and Cosmides (1992, p. 113) and Pinker (1997, pp. 183-84, 193-94).
- 4 For discussions of the brain's evolution see, the essays in Barkow, Cosmides, and Tooby (1992), and again Pinker (1997, 175-86).
- 5 See, Dawkins (1976/1989), Axelrod (1984), Trivers (1985), Tooby and Cosmides (1992) and Pinker (1997, pp. 502-06).
- 6 See, Trivers (1971, 1985), and Pinker (1997, pp. 404-05).
- 7 See discussion and references in Pinker (1997, pp. 513-17).
- 8 I have taken this list from Holmes (1995, p. 55), who cites several of Hume's works from which the list was drawn.
- 9 See, Boyer (1994, pp. 146-47).
- 10 The Aguaruna in the Amazon region believe that certain stones have magical properties – some make one successful at hunting, some in love, some in war, etc. If one has a stone that one thinks would make one successful in war, but then has great success in hunting, one might reclassify it as a *yuka*, the kind of stone that brings success in hunting (Boyer, 1994, pp. 142-46).
- 11 See, Quigley (1979, pp. 176-77).
- 12 All page references in this section are to Horton (1982) unless otherwise noted.
- 13 For further discussion of the rationality of these beliefs, see Sperber (1982).
- 14 Those wishing a fuller historical treatment of the histories of these and other states are encouraged to consult the resource upon which I have heavily relied – S. E. Finer's (1997) magisterial *History of Government*.
- 15 Roux (1980, p. 91) as quoted in Finer (1997, p. 115).
- 16 See, Kitto (1957, pp. 7-9) and Finer (1997, pp. 354-57).
- 17 The distinction between killing and non-killing religions is taken from Harris (1989).
- 18 See, Hobbes (1682, pp. 63-64), and discussion and references in Holmes (1995, pp. 88-89).

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