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## **re•al•i•ty** (rē-al'ĭ-tē) *n.*

1. The quality or state of being actual or true.
2. One, such as a person, an entity, or an event, that is actual.
3. The totality of all things possessing actuality, existence, or essence.
4. That which exists objectively and in fact.
5. *Philosophy.* That which has necessary existence and not contingent existence.



# EVOLUTION

The following is a quote from “Ape Man”, an educational series on evolution. “Like millions of other people I was brought up on the bible story of creation, on the opening words of the book of genesis. In the beginning god created the heaven and the earth. And god said, let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over the earth, and over every creeping thing that creepeth over the earth. So god created man in his own image, in the image of god created he him; male and female created he them.”

“The idea of evolution burst on the world, or at least the western world when Charles Darwin published his famous book on the origin of species in the middle of the last century. It caused a tremendous controversy. Man isn’t the perfect creation of god, he’s the descendant of animals. Indeed he still is an animal. Now there are many many people who believe in gods creation and this program respects there passionately held beliefs. But the plain unvarnished truth is that evolution is not a theory, its a scientifically sound fact. Ape and man are part of one story. A story with many twists and turns, and which leads into an uncertain future.”

Walter Cronkite

Journalist, Anchorman and often  
called the most trusted man in America

The first of our kind spent countless hours trying to explain our existence. With their imaginative minds and lack of knowledge they created an image of what they would like to be. Since then science has repeatedly dispelled these myths. But for some reason we still follow this path of deception. We desperately cling to the last bit of superstition, rewriting it to allow for evolution. But the truth is we are members of the kingdom Animalia and indeed that makes us animals. The fact that we find that some how dehumanizing or offensive is testimony to our ignorance. Through evolution all animals that exist today are unique and special. But human kind often regards itself as more special. Some sort of pinnacle of evolution, an end product. We believe there was some sort of guiding force putting us here. Of course with an understanding of evolution one realizes that this can not be true. We can see the steps that it took to get to human kind. And we are as imperfect as all of those steps that it took to get here. To understand evolution is to understand a part of ourselves and our history. This is not something that should be ignored or forgotten. It is something that should be celebrated and serve to include us in nature once again.

Evolution is the process by which all living things have developed from primitive organisms through changes occurring over billions of years. This includes the most advanced animals and plants. Exactly how evolution occurs is still a matter of debate among biologists. But that it occurs is a scientific fact. Biologists agree that all living things arose through a long history of changes that

serve to increase their potential for survival and reproduction in the face of changing environments. An organism may evolve only when it exists in a variety of forms differing in hereditary characteristics that are passed from parent to offspring. Purely by chance some varieties prove to be ill adapted to their current environment and disappear. Others prove to be adaptive and their numbers increase. This elimination of the unfit is known as natural selection because it is nature that discards or favors a particular variant. Evolution thru natural selection is still taking place today and has no built-in direction or foreordained purpose. And it is plausible that all organisms, including humans, can be traced back to the origin of life from inanimate matter that occurred billions of years ago.

For someone who reaches an average age of just 75 years it's hard to imagine time in billions of years. If you think of the history of life on earth as a single day, with the first cells appearing in the first seconds after 12am, the age of nothing but bacteria lasted until 8:30pm and early humans didn't arrive until 7 sec to midnight. The very beginnings of life on earth go back 3-4 billion years ago. Recognizable life in the sea began about 570 million years ago with a variety of marine invertebrate animals including sponges, jellyfish, worms, shellfish, starfish, and crustaceans. With the Devonian Period about 340-390 million years ago came a very important change. A lobe-finned fish that possessed the ability to gulp air when they rose to the surface evolved into the first land vertebrates. The first amphibians were derived. During the Mesozoic Era about 65-230 million years ago insects and reptiles were the predominant land animals. At the close of the Mesozoic the reptilian dynasty collapsed giving way to birds and mammals. Insects continued to thrive while birds and mammals dominated the world for the next 60 million years. And the mammals closest to humans have their very earliest beginnings only 5-7 million years ago. We Homo Sapiens, in our present form, have only been around for about a hundred thousand years. We're just the latest coat of paint on a very old house.

The most direct proof of evolution is furnished by the science of paleontology, or the study of life in the past through fossil remains or impressions in rock. The fundamental activities in paleontology are the identification and naming of fossil species and organisms and the determination of the type of environment that these organisms inhabited. Fossil finds are rare and dramatic. After hundreds of thousands, sometimes millions, of years very little gets preserved. The first ancient human fossils were only found in the 1860s, around the time Charles Darwin published his famous book *The Origin of Species*. Darwin said he thought we would turn out to come from Africa, home of many of the apes and the heart of the tropics. After all slicing down the east of Africa was the Rift Valley, one of the worlds great centers of change. But in the early days fossil finds seemed to suggest that humans developed not in Africa but in Asia. With time, hard work and thousands of specimens instead of hundreds, Darwin proved to be correct.

The science of human evolution is very new and one of its key questions has always been: Where did we came from? Scientists all over the world have devoted their lives to answering that question. Trying to figure out the human family tree and how and why we have changed over millions of years. People

used to think that the main point of all of this research was to find the missing link between humans and the apes. That idea has been abandoned. There really isn't one missing link and most scientist believe now that there isn't a straight clear line on the family tree. Modern science has determined to its satisfaction that there is no single event that can be pin pointed as the origin of man. There's a picture of change. Changes resulting from different species living side by side in competition, climate change, food supply change and movement through the continents. The point of studying all these fossils is to understand change.

Paleoanthropologists aim to reconstruct the origins, evolution, life ways, and culture of prehistoric humans. Paleoanthropology calls on the skills of many specialists. Central to the operation are paleontologists and archaeologists. Paleoanthropology originated in the mid-19th century with the discovery that certain oddly shaped stones found in ancient river gravels of Europe were actually artifacts, tools made by humans. About the same time, geologists began to appreciate the great extent of the Earth's history. Prior to this time, theologians had calculated that the Earth was created about 6,000 years ago. Fossils and geological features such as ancient gravels were interpreted as evidence for Noah's flood. With the growth of scientific geology, and the correct interpretation of fossils, it became clear that the history of life on Earth extends over millions of years. The notion that the humans had evolved from a nonhuman species only gained currency in the end of the 19th century, when the evolutionary theories of Charles Darwin gained general acceptance. During the 20th century numerous human, prehuman, and hominoid fossils were discovered that linked the modern human species to its apelike ancestors.

There is a long standing myth that the only way to find out about the past is through the past itself, the fossil record. However, sometimes the best evidence of the past is in the present. Remarkable clues about our ancestry come from animals alive today. If you analyze the chemical biological makeup of a chimpanzee, its DNA is less than 2% different than ours. They are almost identical and that means we are very closely related. No other species of animal in the world is that closely related to us. Chimpanzees are even closer to humans than they are to gorillas. In fact humans and the chimpanzees share a common ancestor. Your fathers fathers father, back about 5 million years, was an ape. This common ancestor was the last population before the ancestors of chimps and humans branched off. We know their must have been such a population because when we look at genetics and anatomy we can see that chimpanzees are closest to humans. So somewhere in our past we must have shared a common ancestor. A unique common ancestor not shared by any other species that's living today.

DNA is a code that we can read. When comparing the DNA of primates we can see what is different. Humans and chimpanzees have only a 1.7% difference in their DNA. On the other hand if we compare a chimpanzee or a human to a gorilla we find a 1.9% difference. We can see what's different and we can even work out when the differences happened. There's a clock in our bodies and on it we can read our history. It helps us interpret the fossil record. For example we think the last common ancestor of chimpanzees and humans existed in the range of 7 million years ago. And the last common ancestor with the gorilla existed in the range of 8 million years ago. It has a greater difference in DNA. The last com-

mon ancestor with the orangutan was perhaps 16 million years ago. Anything that chimpanzees and gorillas share, they shared because they had a common ancestor. But that was also our common ancestor. So everything they had in common we must have had in common with them at one time. A time when there wasn't chimpanzees, humans and gorillas but just the one lineage. No matter how much we try to deny it, that makes us just another ape.

Humans are members of the mammalian order Primates. We are related, in descending order of closeness, to apes, monkeys and lemurs. Therefore, the early part of human evolutionary history is shared with these groups. The earliest fossil traces of primate ancestors are found in rocks about 70 million years old, along with the bones of the last dinosaurs. Following the dinosaurs there was an evolutionary explosion allowing the pre-primates, or Plesiadapiformes, to flourish and diversify. These pre-primates are common in fossil sites of the American West and western Europe. Most were small squirrel-like animals. Some were adapted to life in the trees. About 45 million years ago "true" primates had spread into North America and Europe probably from tropical Africa. Unlike the pre-primates that preceded them, these primates had characteristics distinctive of modern primates: a short-muzzled skull, a well-developed visual sense, and long fingers and toes with nails rather than claws. All these characteristics were evidently adapted for life among the small branches of the forest canopy.

From Africa, about 40 million years ago comes the first evidence of primitive monkeylike primates. The largest and best known of these, *Propliopithecus*, was about the size of a cat. However, it was still primitive in some ways. More typical monkeylike primates are first seen about 22 million years ago. Sub-Saharan Africa, during the long geological epoch known as the Miocene, was inhabited by a variety of primates with monkeylike limbs and bodies, but apelike jaws and teeth. This is believed to be the group from which sprang both the monkeys and apes of Africa and Asia, as well as the hominids. The best-known of these primates was called *Proconsul*. And by the middle Miocene, he and his relatives had spread through woodlands and forests from Namibia to France to China. As the climate grew drier in the later Miocene, apelike primates became rarer, and more restricted to the equatorial forest belt. Among the survivors were two that are of special significance to human evolution. *Oreopithecus*, which lived in swampy forests on islands in the Mediterranean about 10 million years ago. It was the earliest form to show the long arms and broad chest of an ape or a human. Another Miocene ape, *Graecopithecus*, has features that suggest it may be close to the common ancestor of humans and African apes.

For many years most anthropologists believed that evolutionary separation of the human ancestry from that of apes must have occurred at least 14 million years ago. However, it now seems likely that a distinct pre-human lineage separated from a pre-chimpanzee only about 6 million years ago. The human ancestors after the chimpanzee-human split are known as hominids. Fossil apes older than 6 million years are now considered to predate the split and thus are not hominids. The earliest known hominids that postdate this crucial split belong to the genera *Australopithecus* and *Ardipithecus*.

*Australopithecus* was first recognized in 1924 when Raymond Dart, a South African anatomy professor, was given the fossil skull of a young child. It

was found in a limestone quarry at Taung, South Africa. There were several features that led Dart to think this was no ordinary African ape. The teeth were human like and the poise of the head on the spinal column pointed to an upright posture. These features suggested a human lineage. But the tiny brain size, even had it reached maturity, would have been similar to that of an ape. The creature was basically an ape but showed a number of features moving in a human direction. It was teetering on the brink of humanity but hadn't quite crossed the threshold. Nevertheless, Dart believed he had found the remains of an early human ancestor and named it *Australopithecus africanus*, the "southern ape of Africa." The Taung skull was the first of Africa's contributions to the study of the evolution of man. This was at a time when the whole world believed that Asia was the home of mankind. Nobody ever heard of anything important coming out of Africa and in the 1920s the idea that we came from Africa didn't fit the prejudices of the time. Many people didn't want to accept that Africa was their origin. And some used the fact that Taung was a baby skull to say it didn't prove anything. So most scientists disagreed with Dart, until later discoveries of *Australopithecus* fossils yielded sufficient specimens to confirm his discovery.

Twenty years after the Taung baby was found, in 1947, Robert Broom discovered an adult fossil skull at Sterkfontein, South Africa. It was a complete skull lacking only the teeth, undistorted and perfectly preserved. It was an adult *Australopithecus africanus*, confirming what Dart had claimed of the child. And they called her Mrs. Plez. There was tremendous excitement. The new species stands in time at least 2.5 million years ago. They did walk on two legs. Bipedalism is a uniquely human trait, and evidence of it on these fossil bones is the most important factor in placing them in the hominid family. And there was no doubt that they lived in Africa, not Asia.

Since then, many additional finds in South and East Africa of fossil bones and teeth have yielded several other *Australopithecus* species. All of which possessed anatomical features permitting them to stand upright and walk on two legs. In other ways, such as the size of their brains and the size and projection of their faces, they were very different from modern humans and probably looked more like chimpanzees. On the basis of differences in the sizes of the jaws and teeth, brain sizes, and relative antiquity, the australopithecine fossils are divided into five species: *A. anamensis*, *A. afarensis*, *A. africanus*, *A. robustus*, and *A. boisei*. The earliest species was *A. anamensis*, which lived in eastern Africa about 4 million years ago. The next species, *A. afarensis*, lived in East Africa between 3 and 3.7 million years ago. By about 2.5 million years ago, *A. africanus* had appeared, perhaps evolving from the earlier *A. afarensis*. Fossils suggest that between 2.5 and 3 million years ago there was an evolutionary split with another line branching off from *A. africanus*. The members of this group, termed the "robust" australopithecine line, were *A. robustus*, known from South Africa, and *A. boisei*, from East Africa. These hominids possessed very large back chewing teeth as well as huge jaws and chewing muscles. Their brains were not significantly different from those of the other, more lightly built, australopithecine species.

In the Afar region of Ethiopia there was great excitement in the 1970s when American and French scientists came up with the single most important

find to date. The most complete australopithecine skeleton ever found. A 40% complete adult female and a new species, *Australopithecus afarensis*, apeman of the Afar. She was nicknamed "Lucy" by her discoverer, Donald Johanson, because the famous Beatles song "Lucy in the sky with diamonds" was playing in the camp that day. With a chimpanzee-size brain, Lucy was about 3.3 ft in height and weighed about 60 lbs. Lucy is a critical piece of evidence for human evolution. She is approximately 3.2 million years old and all the anatomical shifts from the pelvis of a quadruped to a biped were made in Lucy. The same shift is present in the femur, the ankle and foot. The whole picture is one of an animal that is completely adapted to upright locomotion. Lucy's species was older than Taung baby and Mrs. Plez. She and her relatives were alive and walking upright more than 4 million years ago.

A few years after the discovery of Lucy, the legendary Mary Leakey made a remarkable discovery. At Laetoli, Tanzania, she found footprints that were made about 3.5 million years ago in a layer of volcanic ash. The footprints were preserved by a freak mixture of fresh volcanic ash and a shower of rain. You can even see the rain drops in the ash, and the prints of other animals that walked by that day. They were made by people walking upright on two feet and are the earliest undeniable evidence of the great change, the key human characteristic of bipedalism. There were two of them walking along the river bank with what could have been a child. Not only do the footprints indicate that the animal was a biped, but they show the longitudinal arch was present, that the great toe had been moved in line with the other digits and was no longer opposable and that the animal had a very definitive heel strike similar to what we see in man. Together this indicates that the animal had been upright walking for a very long period of time prior to the making of the footprints which is recorded at 3.75 million years ago.

In 1960 a completely new type of hominid was found at Olduvai Gorge, Tanzania, by Mary and Louis Leakey. They believed this new species was closely associated with the first tool making activities. It received the name *Homo habilis*, meaning "handy man," commemorating the discovery of stone tools in association with the hominid fossils. But at the time, their discoveries raised some questions. The problem was the connection between the fossils and the tools wasn't really direct enough. For hard evidence the tools and the fossils needed to be found in the same place and in the same level in the ground. Then in 1976, 1000 miles away in South Africa, Adam Hughes found teeth that looked exactly like fossils found at Olduvai Gorge in Tanzania. Other pieces came out during the course of the following week, including tools from the wall of the pit. But to prove the point they needed a piece of the skull, from the same part of the wall. On the eighth day the piece was found, thus proving the skull represented the makers of the stone tools. *Homo habilis* was the first tool maker. Tools were being made and used more than 2 million years ago.

*Homo habilis* is thought to have evolved about 2 million years ago from an earlier hominid, probably *Australopithecus*. It is therefore the first member of the genus, *Homo*, that includes modern humans. Until recently, *Homo habilis* was believed to be on the direct line of evolution leading to living humans. Its larger brain, smaller face and teeth, and its association with stone tools provided sup-

port for this notion. There is, however, considerable variation in their anatomical features. It has been recently suggested that two or more species of early Homo evolved about 2 million years ago. Those fossil specimens that possess large brains, but also large faces and teeth, have been called Homo rudolfensis. The fossils with somewhat smaller brains, but also smaller, less projecting faces and teeth, continue to be called Homo habilis. Only one of them, thought to be Homo rudolfensis, could be the direct ancestor of living humans. Some anthropologists believe that there were considerable differences in size between males and females in these early members of the genus Homo, and that all the fossils should be included within Homo habilis.

Fossil remains of Homo erectus were first discovered in 1891 by the Dutch physician Eugene Dubois near the village of Trinil on the island of Java, Indonesia. His finds included a partial skull and a thigh bone. The skull cap was significantly smaller and lower in height than those of modern humans. It had a large projecting brow ridge and a sloping forehead. And the inside of the skull had a brain volume about half that of modern humans. On the other hand, the thigh bone was identical to that of modern humans. Which meant it had walked bipedally. He named his find Pithecanthropus erectus, which means "erect-postured ape-man." Later, more complete fossils similar in appearance had been found that showed the presence of many modern humanlike physical features. His name was changed to Homo erectus, more closely related to Homo sapiens.

The oldest Homo erectus fossils are found in Africa. The most extensive and complete of these finds have been made in northern Kenya. In 1984, at the site of Nariokotome, the almost complete skeleton of a Homo erectus youth was discovered. Dated at about 1.6 million years ago, the skeleton is the most complete specimen of an early human ever found. It has been identified as an adolescent male that was about 11 to 12 years old at death. Had the boy lived to adulthood, he would have been between about 5' 11" to 6' 3" tall, large even for modern humans.

Fossil evidence suggests that Homo erectus evolved from earlier hominid species, like Australopithecus and Homo habilis. Homo erectus became the first human ancestor to leave Africa and colonize the tropical and subtropical areas of Eurasia. Archaeological sites of Homo erectus have yielded hand axes, chopping tools and other artifacts of contemporary stone tool use. This testifies to their evolving skills. Fire was also initially utilized during the time of Homo erectus. They occupied Africa and Eurasia until about 400,000 to 300,000 years ago, when they apparently evolved into primitive members of Homo sapiens.

Scientists know from genetics and anatomy that modern humans all over the world are basically the same. The racial differences we see are superficial. If you strip off the skin and the superficial features, underneath we are all very similar. All of our different racial features have evolved within the last 100,000 years, after the initial African evolution of our species. Africa has been a source of human populations for millions of years. It was a place of great evolutionary experimentation. Hominids, archaic hominids and modern humans all came out of Africa again and again. And ultimately we are all Africans. We know this because of something called mitochondrial DNA. Like regular DNA, it's passed down through the generations. Except in this case, it's passed down only through



the female line. And because of the way it's inherited, we know it's all traced back to one person. The mitochondrial DNA in every person alive today can be traced back to one single woman. Many scientist say that one woman lived somewhere in Africa around 200,000 years ago. She was nicknamed "Mitochondrial Eve", but has nothing to do with the biblical Eve. She came from an earlier hominid population in Africa, possibly *Homo erectus*. She was special only because of her DNA. She had a new mitochondrial type and gave rise to a band of humans, some of whom stayed behind in Africa and others spread out to various parts of the old world replacing and not mixing with the older *Homo erectus* populations. It is from this one woman that we've inherited all the mitochondrial types we see today.

Evolution is about survival in a hostile environment. You've got to find food, find shelter from bad weather, compete with members of the same species and avoid being eaten by others. Natural selection is the means by which animals come up with either good solutions which means they are successful and they evolve, or bad solutions in which case they die out. Evolution is a problem solving process. The problems of life got solved for some hominid species, but most failed to find solutions. We are the single surviving species. Not all of the species of hominids that we know from four million years ago up to the present were part of our lineage. There were several different lineages in different places of Africa. Like branches on a bush, some died out and others kept growing. Evolution is partly an accident. The right type of animal, in the right type of environment, at the right time when things were changing, so that a bipedal ape began to do something different. Evolution doesn't think, it just happens. Its not trying to make people, it can't look ahead. In a way its making life up as it goes along. And given our time over again, with slightly different circumstances, we might have evolved into another quadrupedal monkey.

It was once thought that bipedalism, tools and large brains all came together in one package. Now, over the last decade or so, research shows that they came separately. Bipedalism came first with the earliest hominid species. We were walking along on two legs for quite some time before we start seeing tools in the fossil record. And the explosion of the human brain comes even later than tools, only in the most recent hominid species. Upright walking made it possible to transport resources from one place to another. This new possibility created the necessity for the first stone tools made 2.5 million years ago. And the ability to make more complex tools led to the development of early language and larger brains. Which led to greater cultural diversity. Everything we are today goes back to that initial pulse of bipedalism.

Why did the first hominids begin to walk upright somewhere between 3 and 5 million years ago? They must of had very good reasons to stand up because four legged animals get along just fine. And there's also a price to pay for bipedal movement. That price is something that we're all familiar with. Orthopedic problems such as neck pain, back pain and joint problems. We also have obstetric problems that until recently made childbirth very dangerous and and painful for women. Contrary to the biblical interpretation involving a snake and a garden, this problem in reality is caused by a misshapen pelvis that has adapted to walking upright. We humans are not perfect creatures. Evolution has

created a compromise. In order to use our hands we've made certain sacrifices. And now we have to live with them.

What problems were being solved by this uncomfortable compromise? We began as apes and our home was in the forest canopy. But between 5 and 6 million years ago Africa was drying up. The great lush forests of central Africa retreated into little islands surrounded by deserts. Any creature who was dependent on sheltering in the trees or fruits and leaves as food would be dramatically affected by this. These islands would run out of food and the next trees would be miles away on the other side of the plain. Pressure was on these creatures caught in the little islands to adapt or die out. Success meant providing for your offspring. And any behavior that would make those offspring more likely to survive would be strongly selectively favored. One thing that would increase the chance of survival was males becoming secondarily involved in the parenting process. If a male were to collect highly valued items of food and provide them to a female, it would greatly improve the time she has available to care for the infant. It would raise the chance of survival for the group and the infant. It would be an intensely favored form of adaptation. But that form of adaptation required walking upright to carry food items over long distances. Adopting upright locomotion improved our reproductive rate and our survivability.

These creatures who once lived in the trees found themselves in much more open Savannah. With changing weather conditions they were forced to adapt or die. One of the major problems the first hominids encountered would have been heat stress. There would have been very strong selection pressures favoring any adaptations that reduced the amount of heat gained from the environment or which helped in its rapid dissipation. Bipedalism itself has advantages in hot Savannah conditions. As the sun rises in the sky throughout the day the area exposed by a quadruped stays roughly the same, but that of the biped falls dramatically. And at the hottest time of day, around noon, the biped would only be exposing about 40% of the surface area that is exposed by a similar size quadruped. The second advantage is that bipedalism increases the rate at which heat can be lost by the body. Down by the ground the air is slow moving and hot. This allows little heat to be lost through the process of convection. As you stand the air is cooler and it moves more freely over the body surfaces, carrying away more heat. Calculations indicate that a third more heat is lost in this way. This increased convective heat loss means that less water is needed. Eventually walking on two feet was a major evolutionary advance and required many modifications to the bones and muscles. It was probably accompanied by other changes such as hair loss and better sweating mechanisms. How many thousands of years it took to accomplish all these changes is unknown. But if the changes were critical for survival, the transition in evolutionary terms could have been very rapid. Evolution selected upright walking as a better way in the short term to survive and thrive.

The first tools were simple stones. One of the great driving forces of evolution is the daily search for food. Every species is going to adapt to anything that helps them eat and stay alive. Early hominids came down from the trees and were stumbling around on their hind feet. They were faced with a harsh environment and eventually a deterioration of their normal food sources. They also had

a number of biological limitations compared to other animals trying to get food. They couldn't dig underground like elephants do with their feet or bush pigs with their snouts and tusks for food or water. Carnivores run fast, chasing down their prey and securing their quarry with sharp teeth. Hominids didn't have the large chewing teeth and bone crushing jaws of a hyena. But to live and reproduce you have to find a way of muscling in on the system. It is very possible that their niche was found as a scavenger in bone marrow processing. When they came across carnivore kills where most of the meat had been eaten, they may have been left with only the bones. They could get into those bones and access the very rich fat and protein sources with simple anvil technology.

The next step in early stone technology was stone flake tools. These were made by a stone called the hammer that strikes a stone called the core. The shard bits that are knocked off are called the flakes. The small stone flake is probably the most important idea in the history of mankind. It made up for some of the handicaps the hominids faced in their vital search for food. Stone flakes replaced the sharp carnivores canine teeth that the hominids lacked. And they used them to get at a steady supply of meat which was the best food in a dry and barren landscape. The early hominids were not a dominate species like us. You have to forget how much we're in control. Our ancestors were just another species of animal fighting for survival on the open plains. Carnivores were more numerous and much faster and better equipped for predation than this little bipedal hominid would have been. They had to find nourishment where they could and the new tool gave them an edge. When they came across a dead carcass on the landscape they could move right in, get through the skin and get a good quantity of meat very quickly. The speed was necessary because there were other animals out there seeking the same carcass. Animals that were faster, had sharper teeth and were much more threatening. The early hominids probably didn't hunt much. They ate meat from carcasses of animals that had been killed by predators or even died by accident. They were probably eating the meat raw. This is commonly done in the carnivore world and even in the primate world by chimpanzees and baboons.

The success of the early tools led to more sophisticated ones. Hand axes were the inventions of *Homo erectus* about 1.5 million years ago. On the average they measure about 4-6 inches and vary in form from oval to triangular. The sharp working edge is obtained by flaking a stone on both sides along its entire edge. Therefore the cross-section of these tools are generally biconvex. Suggested by the great variation in size, thickness and form they were probably used for a variety of purposes including rapid dismemberment. It is referred to as the swiss army knife of the paleolithic. Hand axes were the dominate form of human technology for over a million years.

Tools solved some problems for awhile, making food easier to obtain. But they were no guarantee of survival. Over millions of years there were many different species of hominids. Some were tool makers and some were not. But even some of the tool makers were selected out and they became extinct. We don't know exactly which of the larger brained tool makers became extinct and which became *Homo erectus*. But we do know that it happened. Those who didn't become extinct found themselves facing new problems as a result of their suc-

cess.

Successful populations increase their numbers. This population growth puts pressure on resources. And ultimately they are then forced to make a choice. Either stay and run out of food or find somewhere else to live. About this time *Homo erectus* began to hunt more and to consume more meat in their diet. Once they became successful meat eaters, be it scavenger or hunter, the habitat barriers that they previously faced disappeared. *Homo erectus* could go to where ever there were animals to eat. And the way their populations were growing they had no choice but to move into new territory. *Homo erectus* spread out of Africa about 1.5 million years ago. They didn't go to far north because ice bound Europe was a very cold climate at that time. They followed the sun eastward to Java and then to China. What we call the middle east is a funnel between Africa and the rest of the old world. Our earliest ancestors had to go this way.

Fire is another key human activity. But when was it first used and what problems did it solve for the hominids? For many years scientists thought the first use of fire by early humans was in China. New evidence from Swartkrans in South Africa tells a dramatically different story. Over 200 pieces of burnt bone dating back to over one million years ago were found. They were three times older than any previous evidence and were from the time of *Homo erectus*. It was proven that the fire was used by early humans and that the burnt bones were not just caused by natural forces. However, it is unlikely that people at that stage would have been able to make fire. That is an extremely involved technical process. It is much more likely that burning twigs and branches were brought back from a lightning strike. That's not nearly as great as making it yourself, but its still an achievement. This was probably the first major step that transformed early people from a subservient species to a dominate one. Early humans faced attacks from many predators. Since animals are afraid of fire, this new discovery allowed humans to avoid this daily threat. Fire has also given us other benefits in the course of our evolution. We could move into new environments that we couldn't before because they were too cold or too far north. We could produce light far into the night. And cooking our food kills parasites and toxins.

If evolution is about problem solving, what was the problem that language solved? We know there was more than one single reason why our ancestors stood upright. The same can be said about language. Language is just another accident in the ordinary business of evolving and surviving. Our ancestors needed language so much that they evolved a special shape for our mouths and throats. A shape denied to the earliest hominids. As a result of this new shape we run a daily risk of choking. But it was worth the risk because our new equipment gave us the ability to spread ideas to alot of people fast. It allowed us to transmit information 3 to 10 times faster than we otherwise could do. And in a world full of predators looking for a meal that is very important. This property of fast speech also allowed us to communicate complex thought rapidly to individuals. And speed was essential when working together to dismember an animal carcass for food.

From the beginning of tool use we needed to teach our children many things. Language gave us the means by which we could achieve this. We needed to teach them which were the best materials for the tools, how to make them and

how to use them effectively. If you can't teach these things to your children they have no evolutionary significance. If you can teach them and pass them on they will affect the future of the species. And as our population increased our ancestors started living in progressively larger groups. Culture became more complex and you needed a language to transmit the culture to the offspring. We needed to work out relationships between individuals. Language is a sort of social glue. It breaks barriers, makes friendships, solves disputes and enables us to make plans. Language also gives us the ability to make symbols of our lives through art, sculpture and decoration. Today language is complicated. But it came to us like everything else, to enable us to survive as groups of creatures on the African Savannah. Language has some remarkable properties. It was language that enabled us to educate ourselves and our offspring. This activity evolved some very important changes in the human brain. The very process of educating restructures the brain. The more complex our culture became, the bigger our brains became.

Language seems to have a starting point that is quite ancient. The point where you see a restructuring of the brain in response to the demands that language would have imposed is about 2 million years before the present. Somewhere in the range of fossil specimens called *Homo habilis*. Its brain enlargement and early speech was the critical difference from *Australopithecus* who taught its young the way a chimpanzee teaches its young. Between 2 and 3 million years ago in Africa there were many small populations of different hominid species that were beginning to evolve in different directions. Language and the brain probably had some effect on which species succeeded and which failed. Language would have been very strongly selectively favored.

The last hominid extinction was as recent as 60 thousand years ago. There were two different kinds of humans living side by side in the same parts of the world. They were Neanderthals and *Homo sapiens*. About a million years ago *Homo erectus* had spread out of Africa and around the old world into the far east and probably into Europe. The descendants of *Homo erectus* in each region began to develop their own characteristics. And the European line is believed to have led to Neanderthals. About a 150 thousand years ago Europe was a harsh cold place. Neanderthals had to be tough. They were hunters who had strength and endurance. They used tools and weapons, had big brains, almost certainly had some language and a social life. They hunted wild animals hand to hand. They had to be very strong and we know from their bones that they suffered the same kind of injuries as modern humans get from being at close quarters with large animals. As with people who are thrown from animals, the injuries were around the head and neck. Neanderthal skeletons showed they often survived their injuries. The bone fractures healed so someone must have been taking care of the hurt and ill in the community. They were the first humans to intentionally bury their dead in very simple graves. Neanderthals seemed to have a very successful and advanced way of life. But about a hundred thousand years ago *Homo sapiens* came up from Africa and changed all of that. Why were we more successful? Why did Neanderthals go extinct?

We know from ecology and evolutionary studies that if you have two populations that are competing it only takes a very small difference for one population

to replace another in a few thousand years. One of those differences may have been in their reproductive capabilities. The more babies a species has the better its chance for survival. All you would need is a very small difference in fertility between Homo sapiens and Neanderthals. Say a difference between a breeding pair of Neanderthals producing two children and Homo sapiens producing three to result in a Neanderthal extinction very quickly. Another very small difference is thought to be language. Around 40 thousand years ago language, speech and symbolic communication became far more important than they had been previously. The Neanderthals seemed to have had language but it was probably slightly inferior to that of modern humans. It is thought that the vocal apparatus of Neanderthal was different from that of modern humans. The tongue was placed higher up and crowded the vocal cavity. So when they spoke their speech was slow and probably nasalized. Whatever the reasons, within a few thousand years, the Neanderthals were replaced by modern humans who went on to populate the whole world.

The European branch of these modern people are often called Cro-Magnon. There is more technological change in the first 5 thousand years of Cro-magnons than existed in all of previous human evolution on the European continent. About 35 thousand years ago invention followed invention. They came up with better tools and better weapons for hunting. These modern Homo sapiens became adapted for all conditions. And one necessary adaptation was better social organization. The world was becoming a much more complicated and crowded place. People had to work out ways to deal with one another. They needed to give themselves an identity, express ideas and create pictures of who they were. The Cro-magnon people were the first to use symbolic art. People were adorning the human body with beads and pendants. The fact that we are still doing that indicates that in some ways they found solutions for social problems that are still relevant to us today. These adornments were not just trinkets. They were very important because any time spent making them was time not spent hunting or dealing with day to day problems. They were handed down from generation to generation. They evoked memories, and carried the history and folklore of the people. Personal adornment and the symbolic communication of a social identity is involved in maintaining differences within a society. This was the first time in human evolution that we had the internal subdivision of human societies into different categories of social persons. As a result, our societies became enormously complex. Your survival no longer depended on your brain alone. That information is now distributed in objects, other people and behavioral rules. More than any other animal we are completely dependent on this world of symbols.

In recent years we have answered many questions about human evolution. About when and why we stood upright. When and why we started using tools, developed language and large brains. But there has been tremendous argument every step of the way. Scientists argued for years about the human family tree. They don't argue whether evolution happens but about which early ancestor was directly related to which. Studying human fossils has brought strong emotions into play. After all, scientists are human too. They have the same superstitions and prejudices. They also would like to feel special and unique in the animal

kingdom. The thought that has been the most difficult for everyone to come to terms with is that evolution hasn't been working toward creating us. We are not some end result. We just happened. The fossils have shown that, contrary to earlier notions, evolution is not a ladder. Human evolution is a bush with many branches. It's the same kind of bush you see in the evolution of other animals. One of the important changes that anthropology has undergone in recent years is that evolution of humans is put in the same context. We want to say we are special and unique. But the truth is we're not. We come from the same place and have the same basic structure of any other animal on this planet. Even some scientists have a hard time dealing with that.

The story of the Neanderthals is a classic example of how humans, even some scientists, wanted very badly to deny their past. Neanderthals are among our closest recent relatives. But many people didn't like the idea of having them in the family. Over the years, Neanderthals have been slandered more than any other type of fossil human. And the reason stems from that old feeling of human superiority over other animals. Europeans didn't want to have semi-human creatures like the Neanderthals in their ancestry. They wanted to believe humans were something very special. Discovered in 1863, it was one of the first early human fossils ever to be found. At the time civilization was characterized by then western Europe. All other areas were characterized by savagery and barbarism. Neanderthals were included in the category of savages. They were considered prehistoric savages. In the early 1900s, after many skeletons were found, the French paleontologist Marcellin Boule came up with one very misleading picture of the Neanderthals. He described an almost complete skeleton as being stooped like the classic caveman picture. They were hunched over with a projecting face. With a certain amount of prejudice he declared them to be very primitive and very divergent which excluded them from modern human ancestry. People were not comfortable being recently descended from anything less human than themselves. And they wanted any ancestor that didn't look very human to be as far back in the past as possible. This image would be the popular view for about fifty years. In the movies they were portrayed as stupid, violent and anarchic. But in 1957 researchers re-examined the skeleton Boule had examined and concluded that the stooped posture was due to a case of arthritis. In the 1950s and 60s much older more ape-like hominid remains were generally recognized. And suddenly the Neanderthals started to look very human. They were then seen as very close to us on the family tree. And very interestingly, as they became close to us they became increasingly like us behaviorally.

This desire to feel special underlies the greatest scandal in the history of paleontology. In 1912, Charles Dawson, an amateur naturalist, announced the discovery of fossil bones in a gravel pit at Piltdown, in Kent, Southern England. When reconstructed, the Piltdown skull exhibited a large, apparently modern brain, but the jaws and teeth of an ape. At the time people didn't want to be related to anything with a small brain. They wanted an ancestor that was very human-like. They felt that the enlargement of the brain must have come first in human evolution, while the humanizing of the teeth and jaws came later. This skull came out of strata which was very old. And it fit in with the idea that the brain, the humanity of humans, was very old. This type of early human appealed

to them. British anthropology went wild with excitement. Previously they found no ancient remains. And those found in other countries didn't fit their prejudices. Here at last Britain had their own evidence and their own story of evolution. In fact Sir Arthur Smith Woodward called his book "The First Englishman".

Unfortunately for them, the skull was a fake. They never found a skull that proved this brain first idea, so they made one. The jaw of a modern orangutan and a 600-year-old human skull had been prepared to fool science. Dawson is the main suspect, but it has long been suspected that scientists at the heart of the British establishment were involved in the forgery. Today the case remains unsolved. But from the beginning there were a number of people who didn't accept the Piltdown skull. A famous American paleontologist William King Gregory wrote in 1914 that it was suspected by some that geologically the bones were not old at all. And they may even represent a deliberate hoax. In addition he published two photos that showed the jaw was very similar to the jaw of an orangutan. Piltdown was finally exposed as a fraud in 1953. Scientists say it is doubtful that something like Piltdown could happen today. More advanced scientific tests, of dating and chemical composition, can be applied to fossils today.

The Piltdown skull stood in the way of a proper understanding of human evolution for a full 40 years. Because of this skull an enormously important fossil find from South Africa, the Taung baby, was ignored. It was found by Raymond Dart in 1924. We now know these little ape like creatures were among our earliest ancestors. But at the time the Taung baby faced several problems for acceptance. One of them was the fact that Piltdown existed. The Taung child had a small brain but very humanlike teeth and jaws as well as its upright posture. It was exactly the opposite of the "brain first" idea that had been conceived earlier. So the Taung child couldn't have been right if Piltdown was right. They couldn't both represent a human ancestor, and the favorite was Piltdown. Putting Piltdown aside, there was another barrier preventing acceptance of the Taung child. Everyone wanted to believe humans evolved from Asia not Africa. The discovery of Peking man in 1929, a fossil hominid dating back only about a million years, gave the idea of an Asian origin for humanity. The world had a bias in favor of the romantic orient and they embraced it avidly. The prevailing attitude about Africa was very different. It was regarded as the degenerate tropics. According to the prejudices of the time, the tropical jungles were not the sort of place humans could come from. Although apes and humans were known to be related, apes were said to have remained apes because they really didn't try to evolve into descent, hardworking humans. And similarly the people who lived in the tropics were also thought to be savages. Their whole picture of Africa was one that humans not only did not evolve from but could not evolve from. Our understanding of human evolution suffered from all this prejudice and hostility for many years. In the end the evidence could no longer be ignored. Africa was indeed the home of humanity.

This scientific set back illustrates that even some scientists could not come to terms with the truth. Their fictitious picture of humanity was too deeply ingrained. Today a small number of religious scientists continue this tradition. Not willing to accept all of human evolution they invent scientific sounding phrases like "micro-macro" evolution or "intelligent design". Sadly, like religion, it



sounds good and people buy it. But it is not science, it is religion. Many say that God could have planned for us to evolve. But we are not the end result of evolution. Evolution is not going in a particular direction. It's not heading somewhere. It is about short term adaptation, short term solutions to problems. And evolution is nothing more than the accumulative effect of all those short term decisions, actions and events. Evolution will continue and eventually Homo sapiens, in their present form, will cease to exist. In the end we are just another species of animal.

# ORIGIN OF GOD

Our desire to separate ourselves from the animal kingdom has required the invention of a completely different world. Leaving behind the natural world we embraced a supernatural one. Although science has repeatedly debunked this imaginary world, faith in the supernatural is greater than ever before. The overwhelming majority believe in life after death, and most believe in the teachings of an organized religion. To find out where our belief systems originate, one must unlock the well guarded secrets in the pages of history.

Religions of today are rewritten versions of an older story. In times of social change, new religious movements would respond to the demands of the times. These movements were derived from the original traditions but were also reactions against it. The new sects would eventually rewrite the old doctrine to accommodate the new social views. In this way Buddhism was derived from Hinduism and Christianity from Judaism.

An excellent example of this is the Song of Solomon, originally the most sensual and provocative book in the Hebrew Bible. Song of Solomon 7:2; "And he said to her, your beasts are two forms, twins of a gazelle. Your belly is a mound of wheat, edged with lilies. Your navel is the moons drinking cup, may it brim with wine." Song of Solomon 7:7; "And he said to her, oh loved one, delectable maiden, you are stately as a palm tree and your breasts are like its clusters. Oh, may your breasts be like clusters of the vine, and the scent of your breath like apples. And your kisses like the best wine." In many earlier semitic religions, sex was seen as a gift from the gods. In fact to get closer to the gods sexual acts were exhibited in many early churches. With the suppression of these earlier beliefs there was a debate whether these scriptures should be included in the Bible. It was accepted among Jews as an allegory of the love between God and Israel. The early Christian church accepted it as an allegory of the love between Christ and his church. The same text interpreted in different ways to suit there individual needs. Both trying to make it not be about sex, when any teenager can tell you exactly what this text is about. Song of Solomon 5:4. "My beloved thrust his hand into the opening. And the core of my being trembled on account of him. I rose to open to my lover, with my hands dripping with myrrh. My fingers flowing there upon the handles of the goat." Many scriptures such as these have been interpreted and translated incorrectly.

This type of religious editing has been going on since the beginning of our species. In fact all religions can be traced back to one early form. To understand this completely you must go back to prehistoric times. Our ancestors tried to survive in a very dangerous world. The earth was filled with huge predators, volcanos, earthquakes, tornadoes and meteors. Try to imagine what it must have been like for these early humans. They were totally ignorant of the knowledge we now take for granted. They had no understanding of death. One minute someone was alive and talking, the next they were quiet and unresponsive. Where did they go? These people had no understanding of natural events at all. A mountain

explodes. The sky echo's with thunder and hurls lightening bolts at you. Tornadoes sweep people away into the sky. And the earth opens up to swallow entire villages. Their sense of awe and fear inspired them to create a large number of nature gods, with myths and rituals to go with them. When Thor the thunder god was angry he would strike his anvil, creating thunder. If you were alone in the forest and frightened you might see Pan, the forest god. This is where we get our word panic.

Many of these explanations gave birth to ancient rituals. Baptism is a sacrament of the Christian church in which candidates are immersed in water or water is poured over them in the name of the Father, Son, and Holy Spirit. It is derived from the practice of John the Baptist, who baptized Jesus. It can be traced further back to the Jewish tebilah, a ritual bath, and finally to the ancient Egyptians. They saw that when the Nile flooded the land was born again. They also recognized when a child was in the womb it was sealed in water. And when the water breaks a child is born. Water became a sign of new life. That's why when you are converting from the evil natural world to the godly spiritual world you must be born again through water, or baptized.

Jews, Muslims and Coptic Christians consider circumcision a practice of great religious significance. However, circumcision is known to have been practiced in ancient Egypt even before it was introduced to the Jews as part of God's covenant with Abraham, as recorded in Genesis 17:12-13; "And he that is eight days old shall be circumcised among you; every man child in your generations....and my covenant shall be in your flesh for an everlasting covenant." This practice is obviously the result of an earlier Egyptian religious custom introduced to insure everlasting life. Egyptians observed that when a snake sheds its skin it becomes renewed, seemingly immortal. So it occurred to them that if a human male were to shed a piece of his skin, he too might have everlasting life. Since the penis rears up like a snake it was quite clear which piece of skin it should be. This ritual spread with religion from ancient Egypt to other cultures in the middle east and then around the world. Of course, as it spread, snake worship was soon forgotten and obscure medical reasons were invented to keep the practice going. Certainly if male circumcision didn't exist today, and someone tried to introduce it, they would be arrested for child abuse.

One completely natural substance was given a supernatural explanation. Exodus 16:14,15; "And when the dew that lay was gone up, behold, upon the face of the wilderness there lay a small round thing, as small as the hoar frost on



the ground. And when the children of Israel saw it, they said one to another, It is manna: for they wist (knew) not what it was. And Moses said unto them, This is the bread which the LORD hath given you to eat." The high priest of Israel would go out in the morning to find the manna from heaven. The word manna actually means mushroom. The manna from heaven is actually

the psilocybin mushroom. Mushrooms grow in the morning mist. They would pick the mushroom and after consuming it would begin to talk to God. In the book *"The Sacred*

*Mushroom and the Cross*” John Allegro, who was commissioned by the state of Israel for research, confirms the taking of the magic mushrooms by the ancient semitic fertility cults in their sex worship which predated and influenced modern day Judaism. Pictured here is a drawing of the high priest of Israel. The head-dress represents the manna from heaven that the high priest consumed in their worship.

If unexplained phenomenon associated with the earth weren't enough, looking up into the sky presented even more problems. The night sky was filled with bright dots. A brighter, closer dot appeared to travel across the sky. The earliest Egyptians and Babylonians had no scientific explanation for the sun or stars so their imaginations took over. Ancient astronomers believed the sky to be a lid or cover on the earth, with the stars as distant holes through which heaven and God were observed. From this perspective the sun appeared to be a small piece of the deity seen through the distant holes. This chip off the old block became the Son of God. And God sent his son to give us everlasting life on earth. They saw that if the sun came up every day food would grow. If food grew people could live and reproduce. Generation after generation man could carry on. So quite logically the sun was worshiped as a being responsible for everlasting life. And at night it became cold, dark and very scary. This time was ruled by the Prince of Darkness. The dawn brought light, warmth and new life. The sun defeated the Prince of Darkness. Which became known as God's sun and eventually the Son of God.

If you think this ancient misinterpretation of the sun is unbelievable, then understand this was originally where we got the idea that the earth was the center of the universe and why the church was so upset with Galileo when he said it wasn't. Even today we misinterpret the sun. The idea of a sunrise or a sunset is technically wrong. The sun isn't rising or setting. The earth is rotating.

The ancient Egyptians became so obsessed with their newly imagined "heaven" that they created many myths and went to great lengths to insure their transportation after death. The stars were seen as gateways to eternal life. The Nile was also viewed as a life source. So the Milky Way, seen as a band of stars, quickly became the celestial Nile. When the earthly Nile flooded it was good fortune for an otherwise barren land. The time of the flooding coincided with the reappearance of the constellation Orion. They associated the stars of Orion with Osirus, the god who cared and provided for them. And to the left of him is the star Sirius which they saw as his consort Isis. They ruled the kingdom of the dead, the kingdom at night. And by the day Ra the great sun god ruled the land of the living.

Their obsession also led to the building of the pyramids. The three great pyramids at Giza built by the pharaohs Khufu, Khafre and Menkaure are precisely constructed in all respects except one. Two were of identical size and in a diagonal line. The third pyramid was much smaller and off-set to the left. All three pharaohs were equally as powerful. Why was one constructed so differently? It was discovered that the three pyramids were a reproduction of the three stars in Orion's belt. Other clues led to even more answers. When you examine where the pyramids are in relationship to the Nile and the angle they made with it, then compared that to Orions belt and its relationship to the milky way, you

find they are the same. Next, you examine the other two existing pyramids of the fourth dynasty, built for some unknown reason miles away from Giza. From original graffiti we know that the first pyramid at Abu Ruwaysh built by the son of Khufu, was named after a star. The second one at Zawyat-al-Aryan was built three miles from Giza. This pattern revealed that the design of the pyramids in the Giza area was Osiris or the constellation of Orion on land. The Egyptians were building heaven on earth. They were reproducing these gateways to eternal life.

The pyramids not only mirrored the heavens, their function was to assist the pharaoh in his passage to heaven. They contain two tiny eight inch square shafts that travel at precisely maintained angles throughout the pyramid. Both the kings and queens chambers have a northern and southern shaft. And in the time of the ancient Egyptians they lined up with the gateways to heaven that we call stars. The position of the stars in the sky today are not the same as in ancient times. This is due to the phenomenon of precession or the wobble like motion of the earth. It causes the height that a star arches through the sky to change with time. Stars appear to travel through the sky every night. Rising and setting like the sun. the highest point in the nightly arch of a star is due south and is called its culmination. It's this height that changes due to precession. The constellation of Orion dropped about one degree per century. During the period of 2500bc, when the pyramids were constructed, the southern shaft of the kings chamber lined up perfectly with Orions belt. The southern shaft in the queens chamber pointed to Sirius, Osiris's consort Isis. The shafts were used to propel the soul through the gateway and into heaven.

An important religious change came in the year 1379 BC. The Egyptian Pharaoh Akhenaten changed the religion from the worship of many Gods to the worship of one God. This God was a personification of the most important thing in the sky. And his name was Ra. This is where we get the word ray, as in sun ray. In fact this one God was the sun and his full name was Amen-Ra. Pharaoh Akhenaten said that when you pray to God you must pray through the Son of God, Amen-Ra. He represented God. And at the end of the prayer, in the ancient temples in Egypt, they would say Amen.

Since the rule of Pharaoh Akhenaten the masses have been encouraged to worship one chief deity. Matthew 6:22; "The light of the body is the eye: if therefore thine eye be single, thy whole body shall be full of light." In ancient Egypt this single eye was the symbol of Amen-Ra. It was always pictured within a circle, the sun. The single eye was a symbol of seeing only one god. This ancient concept of the sun god Amen-Ra was obviously repeated in the Holy Bible. There are several places in the Bible where Jesus is referred to as the chief corner stone which the builders rejected or disallowed. For instance, Ephesians 2:20; "And are built upon the foundation of the apostles and prophets, Jesus Christ himself being the chief corner stone." And 1 Peter 2:6,7; "Wherefore also it is contained in the scripture, Behold, I lay in Sion a chief corner stone, elect, precious: and he that believeth on him shall not be confounded. Unto you therefore which believe he is precious: but unto them which be disobedient, the stone which the builders disallowed, the same is made the head of the corner," A regular corner stone can be found at the top or bottom of a building. The chief corner

stone is translated from the greek word meaning the peak of a pyramid. On the back of an American dollar bill, you will find a pyramid with the chief corner stone separated from it. Within the corner stone is the eye of Horus. Also known as the sun of God, or the eye of Ra. Both Jesus and Amen-Ra are the same person. Personifications of the sun to whom we pray and say Amen.

Indeed all chief deities were nothing more than personifications of the sun. That list goes on and on back through ancient history. All races, creeds, colors and movements have always personified there



most important god as the sun. Jesus is no different. He is referred to as Gods sun, the light of the world, who is our salvation because he has risen. In fact all sun deities including Jesus have been pictured wearing a sun disk as a crown. If you think this is far fetched, take a look at how the Holy Bible describes Jesus. Revelation 1:7; “Behold, he

cometh with clouds; and every eye shall see him.” There is only one light of the world every eye can see that comes with clouds. That, of course, is the sun. In the scriptures we also read how Jesus walked on water. Matthew 14:25; “And in the fourth watch of the night Jesus went unto them, walking on the sea.” All of us have seen the sunset at the beach. The sun appears to be walking on the water. We are also told that the son of God died with a crown of thorns. Mark 15:17; “And they clothed him with purple, and platted a crown of thorns, and put it about his head,” That is precisely how the sun was pictured in ancient days, with a crown of thorns, or sun rays.

To the Egyptians winter represented death. They noticed on their sundials, that in winter the sun moved further south. And they also noticed that when the sun went south, it reached a point where it stopped in its movement. It didn't move any further south. And they began to notice that it didn't begin to move back north again for three days. For three days the sun set exactly on the sundial in the same place. Therefore the ancients said that the sun of god dies for three days. And it is resurrected or brought back to life once it begins its annual journey back to the northern hemisphere. And it began this journey back to the northern hemisphere on December 25. Therefore Gods Sun, the light of the world, was born again on December 25. Matthew 12:40; “For as Jonas was three days and three nights in the whales belly; so shall the son of man be three days and three nights in the heart of the earth.” Jonas is semitic for the sun. Jonas is living inside the whale for three days which means the sun is at the winter solstice in the belly or bowels of the earth and dying for three days. Matthew 27:63; “Saying, Sir, we remember that deceiver said, while he was yet alive, After three days I will rise again.” The sun represented salvation to the ancient people. They saw that if the sun continued to come up every morning that life would continue. Therefore the Egyptians said that the Sun of God, the light of the word, represented everlasting life. They recognized that the sun was giving off energy to the plants, animals and humans of the earth. Therefore the sun was giving up its life for our salvation.

Every year the Egyptians waited for the monsoon rains to come to the

Central African Highlands. When the rains came they would overflow the tributaries, flowing downhill into the deserts of North Africa. Once a year this would flood the Nile delta. While the waters brought fresh minerals and nutrients necessary to sustain life, they were also destructive. They called the waters “the waters of kayos”. It was noticed that at the time of the flooding the moon was always in the lower quarter. The Egyptian people celebrated the coming of the lower quarter of the moon and the flooding that ensued. It was called the Argha-Noa, which later became the ark of Noah.

John 1:29; “The next day John seeth Jesus coming unto him, and saith, Behold the Lamb of God, which taketh away the sin of the world.” This is a very old concept. Virtually all the ancient religions in the world had a Lamb of God. In Buddhism, a priesthood much older than Christianity, they have a religious leader called the Dalai Lama. Dalai comes from the Latin word meaning God. Lama is a Lamb. Therefore the Dalai Lama is Gods Lamb that takes away the sins of the world. The concept of gods lamb existed far before the Hebrews. Ancient Turks, ancient Greeks and ancient Romans all had a Lamb of God.

Jesus is often referred to as the good shepherd who shall rule the nations with a staff and a rod of iron. Psalms 23:4 “for thou art with me: thy rod and thy staff they comfort me.” John 10:11; “I am the good shepherd: the good shepherd



giveth his life for the sheep.” John 10:14; “I am the good shepherd, and know my sheep, and am known of mine.” Hebrews 13:20; “Lord Jesus, the great shepherd of his sheep.” Revelation 12:5; “And she brought forth a man child, who was to rule all the nations with a rod of iron.” Revelation 19:15; “And he shall rule them with a rod of iron.” The pharaoh was referred to as the good shepherd. The members of the religious household were called, in Egyptian, the shepherds fold. The pharaoh was considered to be the incarnation

of Amen-Ra who ruled for God on earth. Being a representative of the sun of God, the pharaoh looked after the shepherds fold. That is where we get the idea that there would be an earthly kingdom.

God tells his people in Isaiah 19:19; “In that day shall there be an altar to the Lord in the midst of the land of Egypt, and a pillar at the border thereof to the Lord.” This means that in the middle of Egypt there will be an elevated structure where religious ceremonies were performed to the Lord. Well, exactly in the middle of Egypt stands Cheops, the great pyramid. This monument to the “Lord” had already been standing there for three thousand years before the Bible was written. And it was originally intended as a monument to a god, but not our god. It was for an earlier version of our god, Osirus father of Horus.

Amen-Ra, or Horus as he was called, was everything that was good and holy. But he had an adversary. His name was Set, the evil god of darkness. He was usually represented with a pointed muzzle and horns. This is obviously the same story as Jesus and Satan. In fact, the resemblances between Jesus of Nazareth, Horus of Egypt, Chrishna of India, Budda of the Orient and all of the other saviors throughout history are just too many to list. They go on and on and on. Incredibly, if you go back ten thousand years before Jesus, you’ll find sixteen

other men who came along also claiming to be the Son of God, born of a virgin mother having the name of Mary or a derivative of the word Mary. They were also in the temple scolding and training their elders by the age of twelve and the ruler of the land, fearing the Son of God had been born, tried to put them to death. They also began their ministry at the age of thirty, ended their ministry at the age of thirty three and were killed on the cross. These events were claimed by sixteen different people before Jesus. Thulis of Egypt 1700BC, Crite of Chaldea 1200BC, Chrishna of India 1200BC, Aty's of Phrygia 1170BC, Thammuz of Syria 1160BC, Hesus of the Celtic Druids 834BC, Indra of Tibet 725BC, Bali of Choris 725BC, Iao of Nepal 622BC, Hindoo Sakia 600BC, Alcestos of Euripides 600BC, Mithra of Persia 600BC, Quexalcote of Mexico 587BC, Wittoba of the Tarragonese 552BC, Prometheus 547BC, Quirinus of Rome 506BC.

The Holy Bible is nothing more than a rewritten account of the most ancient story the world has ever known. It has often been called the greatest story ever told. And there's a reason why. With an understanding of ancient history you will find that the greatest story ever told was the story of the zodiac. Jesus of Nazareth, Chrishna, Horus and the other sixteen saviors represent the sun. The largest and most important thing that appears to travel through the houses or constellations of the zodiac. The Bible is pure astro-theology based on the zodiac. The worship of God's heaven. What most of us now call space. Have you ever wondered why, even today, space is referred to as the heavens? Most of us are unknowingly worshiping personifications of constellations, stars and the sun.

However, there have been recent clues suggesting this relationship. Many European cathedrals and American churches exhibit symbols of the zodiac in stained glass windows and other architectural features. In 1932, Archeologists unearthed a fourth century synagogue in Israel. And in the very center of the temple they found a beautiful mosaic of the zodiac. It was a representation of God surrounded by the twelve signs of the zodiac. Like the Egyptians, this is undoubtedly a symbol of a god's presence among the stars. The ancient Egyptians based their religion on the sun, constellations and the zodiac. They covered the ceilings of their tombs with paintings of the sky showing the patterns of their constellations and the names and pictures of the gods placed within those stars.

To further understand the connection between modern and ancient religions, we must study astronomy. Astronomy is a very precise science that we use today to determine when we will have the next eclipse, or when we will see the next full moon. Today we divide the year into twelve months. As far back as we can go in history the year was divided in a similar way. But early astronomy was a mix of science and astrology. Our ancestors drew a circle representing one year. It was then divided into twelve equal parts. Each one of these was called a zodiac or a house. The sun traveled through these different houses of the zodiac. This is where the connection between the Sun of God having twelve helpers, as they were called in Egypt, and the Son of God, Jesus Christ having twelve apostles. After dividing the circle into twelve equal parts it was then further divided into four groups. A line was drawn from the winter solstice, the shortest day of the year, across the zodiac to the summer solstice, the longest day of the year.



Then from the spring or vernal equinox, to the autumnal equinox, where both day and night are equal. This was how the sun affected the circle of the zodiac.



In the form of a cross. Remember the sun was very important to our ancestors. They noticed the cycles of the sun, and that from fall to winter the days got shorter.

Many church crosses have a circle within the cross. This actually does not represent the Son of God dying on the cross. Over the ages man began to refer to the sun as the Sun of God, and finally the Son of God. So what a cross with a circle in it like this truly represents is the autumn sun waning and dying on the cross of the zodiac.

This church tells the whole zodiacal story. The small sun dying on the cross of the zodiac, surrounded by twelve helpers, or houses of the zodiac. Anyone can see that this is indeed a round orb with 12 sides or houses around it. It is the sun that is symbolized on this church and not a man.



John 14:2; “In my Father’s house are many mansions.” Like many other scriptures in the King James Version, that was translated incorrectly. That makes no sense at all. How can you have many mansions in a house? It is correctly translated, In my Father’s house are many abodes. My father’s house would be heaven. And many abodes are the twelve houses of the zodiac. So in heaven there are twelve houses of the zodiac. And indeed there are.

Job 38:31; “Canst thou bind the sweet influences of the Pleiades, or loose the bands of Orion?” Job 38:32, “Canst thou bring forth Mazzaroth in his season? or canst thou guide Arcturus with his sons?” Job 38:33; “Knowest thou the ordinances of heaven?” Orion, Arcturus and the Pleiades are all constellations. If you refer to the interpreting dictionary in the back of the King James Bible, the word Mazzaroth means the twelve signs of the zodiac. So God is asking Job; Canst thou control Orion, Arcturus or the Pleiades? Canst thou bring forth a zodiac in the proper season? Knowest thou the commands of heaven? This is pure astrology.

There’s a natural phenomenon that is called the precession of the equinox. The Earth’s axis slowly precesses, or wobbles like a top. One revolution takes about 26,000 years. The celestial sphere is an imaginary sphere surrounding the Earth, on which the stars seem to be placed. The yearly path of the Sun across the celestial sphere is a great circle called the ecliptic. All along the ecliptic in 30 degree intervals are the signs of the zodiac. The point on the ecliptic where the Sun crosses the equator is called the vernal equinox. What sign of the zodiac that the vernal equinox falls in determines what age or constellation we are in. When the Earth’s axis slowly precesses it takes the zodiac with it and the vernal equinox eventually ends up in the next age or constellation of the zodiac. The sun enters the new constellation at the thirtieth degree. And due to the precession of the equinox it leaves that constellation for the next one at the thirty third degree. Therefore the Sun of God begins his ministry to each one of his helpers

at thirty and dies at thirty three.

In the Bible there are many references to the “end of the world”. Matthew 28:20; “and, lo, I am with you alway, even unto the end of the world.” Matthew 12:32; “it shall not be forgiven him, neither in this world, neither in the world to come.” Matthew 13:39; “the harvest is the end of the world; and the reapers are the angels.” Matthew 13:39; “so shall it be in the end of this world.” Matthew 24:3; “and what shall be the sign of thy coming, and of the end of the world.” Mark 10:30; “and in the world to come eternal life.” Luke 18:30; “Who shall not receive manifold more in this present time, and in the world to come life everlasting.” 1Corinthians 10:11; “and they are written for our admonition, upon whom the ends of the world are come.” Ephesians 1:21; “not only in this world, but also in that which is to come.” Hebrews 6:5; “And have tasted the good word of God, and the powers of the world to come.” Hebrews 9:26; “For then must he often have suffered since the foundation of the world: but now once in the end of the world hath he appeared to put away sin by the sacrifice of himself.” How could Jesus have sacrificed himself once at the end of the world, when the world obviously didn’t end? And how could there be this world and the world to come? The truth is we’re not talking about the end of the world at all. What we’re talking about is the zodiac, the end of the age. This age and the age to come. The last time the vernal equinox entered a new constellation or age was when Jesus sacrificed himself in the end of the “world” or age of Aries. And then we went into the beginning of the next “world” or age of Pisces.

Each age is about two thousand two hundred years long. And around the year 2200 we will enter into the age of Aquarius. The age of aquarius is symbolized by a man with a water pitcher, or the water bearer. In the scriptures Peter and John are told by Jesus to prepare a passover meal. And when they asked Jesus where they should bring this meal, Jesus replied, Luke 22:10; “And he said unto them, Behold, when ye are entered into the city, there shall a man meet you, bearing a pitcher of water; follow him into the house where he entereth in.” So once he has served the last passover, the last year in the age of Pisces, Gods Sun will go into the house of Aquarius.



Because Rome ruled the world for two thousand years under the age of pisces, the fish is an appropriate symbol. That’s why Christians have the fish on the back of their car. And Jesus is referred to as the great fisherman. The pope wearing the miter, which is nothing more than the fish head. The fish is the symbol of Christianity.

While we might not know of the connection between astrology and Christianity, middle ages Europe was very well aware of the connections. In Europe six hundred years ago, many churches had these same symbols. Early astronomers were astrologers. In fact Kepler did charts and Galileo earned fees as high as fifty thousand pounds for his services as an astrologer. And until Galileo came along these astrologers were funded by the Catholic church.

Mark 6:41,42,43; “And when he had taken the five loaves and the two fishes, he looked up to heaven, and blessed, and brake the loaves, and gave them to

his disciples to set before them; and the two fishes divided he among them all. And they did all eat, and were filled. And they took up twelve baskets full of the fragments, and of the fishes.” Jesus feeds his followers with two fishes and five loaves. The two fishes are in fact the two fishes of the constellation Pisces. Consequently Gods Sun feeds his people on earth in the sign of the two fishes. And there are twelve baskets of left overs, one for each house of the zodiac. This suggests there will be food for all the people in future ages of the zodiac.

Matthew 2:1,2; “Now when Jesus was born in Bethlehem of Judaea in the days of Herod the king, behold, there came wise men from the east to Jerusalem, Saying, Where is he that is born King of the Jews? for we have seen his star in the east, and are come to worship him.” The three wise men or magi from the east see a bright new star in the heavens. They follow the star to Bethlehem, where they discover the new born child as the messiah. The father of modern astronomy, Johannes Kepler, found the explanation of this ancient story in the 17th century. Kepler observed a rare conjunction of two planets that appeared to form a bright new star. He calculated that the last time this had taken place was the year 7BC, and it was most likely observed by astrologers of that time. What they observed was the conjunction of Jupiter and Saturn. Saturn traditionally signified Jews and Jupiter definitely signifies kingship. So three astrologers or wise men deduced that the king of the Jews was being born in Judah. If you draw up a birth chart for this date, every single planet is in its own sign. Astrologers believe that someone born under this conjunction of the planets would be destined to change the world. This is a story dreamed up by astrologers and based on astrology. Scientists know that astrology is against the laws of physics.

The ancient Egyptian calender didn't start with January, or Janus the double headed god of Rome, as we do. Instead they started their calender at the constellation of Virgo the Virgin which became visible in the spring. Consequently the Egyptians and the ancient Semitic cultures said that the Sun of God that died in the winter was born again in the constellation of Virgo the Virgin. Which eventually became Jesus Christ the Son of God born of a virgin. This is why in front of the pyramid you have a sphinx. The sphinx has a head of a women and the body of a lion. This symbolized the zodiac overseeing the pyramid. Because their zodiac began with Virgo the Virgin the head of the sphinx and ended with Leo the Lion the body of the sphinx. Symbolically the sphinx was the complete zodiac.

In the book of Exodus we are told that Moses comes down from Mount Sinai after receiving two tablets of Gods law. He finds the Hebrews worshipping a molten calf made from the golden ear rings of the women. Moses got so angry he threw the two tablets to the ground. The golden calf was nothing more than the symbol of the sun. Since their original god was nothing more than a symbol of the sun, they were worshipping what appeared to be another God. And the calf comes from the astrological sign of Taurus. This zodiac story comes from Gods Sun entering the constellation of Taurus. The golden calf or the sacred cow, is still worshiped in India today.

Just as all references of the two fishes are in the new testament, all references to the ram are in the old testament. This is because Christianity ruled the

world under the age of Pisces, and Judaism ruled the world under the age of Aries. Ancient Hebrews would blow the ram's horn at the beginning of the new year. The ram's horn was of course celebrating the coming of Gods Sun. The messiah, the light of the word, who was going to come into his new two thousand year kingdom. In the age of Aries the ram. Later on the ram was called the passover lamb, or the Lamb of God. And that's why Jews today still blow the ram's horn.

When the Hebrews were in Egypt they were of course subject to the religion being practiced in Egypt. And at that time Isis the female personification of wisdom was worshiped. This is where we get Mary, mother of God. Later, with the coming of Pharaoh Akhenaten the worship in Egypt was changed from Isis to Amen-Ra. So Amen-Ra became the chief deity in Egypt. Then the Hebrews left Egypt and went north into Palestine, the land of the Canaanites. Their god was El or the planet Saturn. The Hebrews then picked up the worship of El. And when they developed their new land, they combined their three concepts of God. Isis, Amen-Ra and the god El. This became Isis- Ra-El, or Israel.

The Hebrew god El was a more ancient semitic god, a personification of Saturn. In the Archiv Orientalni published in November of 1950 we find that the Star of David, the hexagram, is actually the star of Saturn. And that's why today Hebrews worship on Saturday and Christians worship on the suns day. And there's still an argument in religious circles today as to the correct day of worship. It all depends whether your worshiping Saturn or the Sun. And it really doesn't make much difference because its all Egyptian.

Wise King Solomon is the sun in three languages. "Sol" is spanish for sun. Eastern religions chant "om" for the sun. And "on" is Egyptian for the sun.

The adventures of Samson is equated to the adventures of Hercules. Samson was a solar myth. He had twelve unusual exploits or adventures around the zodiac. His strength was in his hair, because in his hair were the sun's rays. When Delilah cut off his hair in actuality his rays were cut off.

The most ancient writings in the world tell the same stories as the Bible. They had the story about the young boy who was swallowed by the great fish. The biblical account of God creating Adam from dust, breathing life into him, and placing him in the Garden of Eden is similar to Egyptian and Mesopotamian accounts in which the first man was made from clay, infused with life by a divine being and placed in a paradise of delight. The biblical flood story is structurally similar to the Sumerian version, the Akkadian versions in the Atrahasis and Gilgamesh epics, and the late Greek version by Berossus. The story of baby Moses in the reed basket on the Nile is a typical legend about a famous man's childhood. The same basic story is also told about Sargon, king of Akkad (c.2350 BC). And the ancient Babylonians who first developed astrology had the story of Nebo. The great law giver who had golden hair and went up into the great mountain of God, a pyramid, and received the great Law of Hammurabi. He came down from the mountain with the tablets of stone and gave the great law to the Babylonian people. The Egyptians picked that up, but their great law giver was called Meses. He had golden hair and went up Gods mountain, the great pyramid, and came down with the tablets of stone, the Law of God. But when he saw the Egyptians did not respect divine law, he broke the stones of the great law.

The Hebrews took that story when they moved into Palestine and it became the story of Moses.

The new testament of the Bible was written by a group of writers in the first century. During those first four centuries, the elders at different churches would receive original text from the authors. And at that time they had no means of copying the text for the other churches. They transcribed the text, and sent it on to the next church. This process went on for four centuries. Who knows how many times one of those scribes altered it or added something to it, trying to clarify or change what was being said based on four hundred years of changing times.

In the fourth century there was a Roman scholar by the name of Jerome who put together all these teachings of the different churches. That was known as the Vulgate. Each one of these churches were independent of each other. There was no one to answer to so they could write whatever they wanted. All of these writings in Greek and Arabic were translated into Latin. During the Middle Ages, parts of the Bible were put into Anglo-Saxon and Middle English. The first English versions of the entire Bible were made (1380-93) by John Wycliffe and his associates who used the Latin text. The Reformation gave further impulse to translations into modern languages, notably that of Martin Luther in German and William Tyndale in English. Among later versions are the following: Miles Coverdale's Bible (1535), Matthew's Bible (1537), the Great Bible (1539), Geneva Bible (1560), Rheims-Douai Bible (1582, 1609). Then in the early sixteen hundreds they assembled about three hundred scholars at Oxford University to go through the works of the vulgate found in Rome and Constantinople, and try to put them into English. And that was known as the King James Version of the Bible. Since then the translations haven't stopped: English Revised Version (1881-85), Revised Standard Version (1952), Jerusalem Bible (1966), New English Bible (1970), New American Bible (1970), New International Version (1973-78), Tanakh: The Holy Scriptures (1985), and the New Revised Standard Version (1990).

Often times there are translations within the same language. We see new versions to change the changes in dialect. There have been dramatic changes in the English language from the year 1950 until now. It is hard enough to understand the dialect of 50 years ago, much less thousands of years ago. So since then, through the many translations, there have been undeniable changes to a text that was originally a story of the zodiac. And even if the connection between the zodiac and modern religion was not known, it is hard to ignore the overwhelming number of manipulated translations over the past two thousand years. Even so many people still consider it be the infallible word of God. They use it as a blueprint of how they should conduct their lives. And unfortunately how others should behave.

Knowing the connection between astrology and modern religions will almost certainly not put an end to its practice. There will be denial and some will say that astrology and the zodiac have some validity. However, over the years numerous studies have debunked astrology. Science regards it as empty superstition, and points out that it is against the laws of physics. There are four forces that govern the behavior of matter: gravitation, electromagnetism and the strong

and weak nuclear reactions. None of these can account for the claims that astrologers make. With popular astrological columns there is also the problem that, due to the Earth's precession, the signs of the zodiac have moved and no longer coincide with the constellations. Also some will say the stories in the Bible are not intended to be literal truth, but are intended to be allegories. The truth points to the fact that these stories are in some cases four thousand years old, and when they were originally written that is exactly how the authors intended them. Remember the creators of this story lacked most of the knowledge we now take for granted.

Throughout the history of our species we have made great advances that have allowed us to solve many problems. But there is one area that we have barely progressed in since the stone age. That is the area of religion. We have the same unsubstantiated beliefs as the first of our kind. Through religion we have invented a supernatural world which gives us the idea that we are special, spiritual beings. An investigation of science and history proves just the opposite. Sadly we often justify our treatment of one another in the name of this pretend world. Today, as in the past, religion stands between us and solutions to many of our problems. Real solutions are always found in reality.

# OTHER SUPERSTITIONS

This belief that we are special, spiritual beings has provided the canvas for charlatans to paint their picture of deception. On close examination most supernatural phenomenon is dependent upon human gullibility and wishful thinking. Time and time again, they have been shown to be just magic tricks masquerading as miracles. Psychokinesis and many other supernatural phenomenon are known to be against the laws of physics. However, most people ignore this reality. The popularity of psychics, astrology and other supernatural phenomenon is increasing. An investigation into science and history provides the facts necessary to intelligently interpret these so-called supernatural connections.

Attempts to evoke the spirits of the dead are recorded in ancient Egyptian hieroglyphics. Spiritualistic practices have a long history in India, where they are regarded as worship of the dead. But spiritualism in its modern sense traces its origins to 1848, and the activities of two young girls named Kate and Maggie Fox. At their parents' farmhouse near Hydesville, N.Y., the Fox sisters were not in touch with spirits. They were, however, playing tricks in the dark. They made noises by bouncing fruit on a string and cracking their toe joints on the bed boards. Because it was rumored the house was haunted, Mrs. Fox thought the strange noises might be communication from the other side. She took this seriously because the telegraph had just been invented and there was talk of a spiritual telegraph. When news leaked out, the Fox house was invaded by people fascinated by the possibility of communicating with the dead. The family quickly saw the opportunity to make a buck. The sisters held seances, toured with P. T. Barnum, and soon became celebrities. After her conversion to Roman Catholicism in 1888, Maggie declared that the rappings had been a hoax. Spiritualists insisted that her confession was made for money, and later she did return to spiritualism for a living.

Kate and Maggie became the first spirit mediums. At the beginning, in response to questions, the spirits would knock once for no and twice for yes. Then they learned to spell using a primitive system. The girls would say a letter and wait for a knock to confirm it. This was a lengthy system requiring them to recite the alphabet over and over. Gradually the spirits became more sophisticated. Spelling out words by guiding the hands of sitters at seances, or answering questions by tipping a table. The great British scientist Michael Faraday discovered that this was not the work of spirits, but of unconscious muscular movements now known as "ideo-motor action." When placing your fingers on the edge of the table, with out realizing it you could be pushing and pulling in different directions. Only very small forces, but enough to move glass or tilt a table.

In 1850, only two years after the first antics of the Fox girls, there were more than a hundred mediums in New York City and fifty spiritualists in Philadelphia. And a decade after that there were millions of believers in America and Europe. Spiritualism became a very popular and profitable occupation. It was a rare job opportunity for women at the time. The spirits now began to speak

through spirit trumpets. The mediums produced ever more unlikely phenomenon. But their skills had less to do with conjuring spirits than conjuring tricks. People had reaching rods, telescopic rods which in near darkness they could extend to jingle bells many yards away. They had their sitting rooms arranged for trickery. People wanted above all else to believe there was life after death. They wanted to speak with their departed loved ones. And so this incredibly flimsy evidence would be taken as very strong proof.

To keep the faithful interested they had to learn new tricks. Messages from beyond now began to arrive in writing. And the most popular spirit writing medium was an American, Henry Slade. Slade arrived in London in 1876 hoping to exploit a new market with the proof he claimed to offer of communication with the dead. Slades specialty was producing spirit messages on chalk slates. He would first show that the slates were blank, then put them face together. The faithful would put their hands on the slates. Mysterious sounds of writing would be heard. And then as if by divine means a message would appear. Supposedly from the spirit of Slades late wife. The message was prepared before hand, but disguised with a false flat. When the two slates were placed together, the flat drops onto the slate opposite and the writing is revealed. Two young medical students exposed him as a fraud. Slade was arrested and his trial was the talk of London for some weeks. He narrowly escaped jail. And his case had revealed deep divisions among scientists over the authenticity of spiritualism. Charles Darwin contributed the substantial sum of 15 dollars to his prosecution. But Alfred Russel Wallace who had developed the theory of evolution alongside Darwin, was a key witness to Slades defense. It was a perfect example of the clash between science and religion in the late 19th century.

When Darwin came along with his controversial theory of evolution, in 1859, it was a major blow to the religionists. Their belief in the literal truth of the bible was being challenged. Many abandoned organized religion, but spirituality and a belief in life after death remained very important. They were looking for something more consistent with the new "scientism" as it was called at that time. And then the spiritualists came along with a mysterious new substance from the spirit realm. This substance was scientific evidence. They didn't have to believe on faith anymore. It was called ectoplasm. A very good scientific sounding word, and everyone embraced it immediately. The ectoplasm seemed to flow out of the mediums mouth. However, ectoplasm bore a striking resemblance to cheese cloth. And it tended to appear only after the medium had been out of sight for a while in a so-called "spirit cabinet" or behind a convenient curtain or screen. But this was a time of great scientific advancements. Radioactivity and x-rays were just discovered. Ectoplasm seemed completely possible. Even the vast majority of people in science at that time were quite receptive.

Nobel prize winning physiologist Charles Richet had coined the term ectoplasm. His star subject was the flamboyant medium Usapia Palladino. Richet conducted an investigation of Usapia at his cottage in the south of France. He was convinced that spirit hands formed by ectoplasm produced Usapia's phenomenon. This contrasted with the theory of a famous Italian scientist who was sure the phenomenon emanated from pure sex energy, and were even accompanied by orgasms. She would groan and thrust about and finally some physical



manifestation would take place. Tables would rise, bells would ring and objects would be thrown. Palladino was very well known for being able to skillfully substitute one hand or one foot for another. So she would ask investigators on either side of her to hold on to her hands and place their feet on top of her feet so they had control of her. But in the semi-darkness she was able to free one of her hands to do its spirit business, while the sitters were convinced they had control of both of them. Usapia was just as good at slipping a foot out of the circle of control. She had her own table made from light wood which she could lift by getting a foot under the table's leg. And she was frequently exposed at such trickery. An accomplice might produce other effects. Richet still could not believe that such an ill-educated woman could be deceiving him. She was often called an "ignorant Italian peasant." It turned out she was a very cunning Italian peasant that played on the logical, sequential nature of his thought processes.

Having produced ectoplasmic body parts, the mediums then tried full form materialization. Ava Carrier produced quite a number of heads which were clearly folded and flat. She also produced a full form materialization that she called Dors Meeker. He too was extremely flat. Ava often performed in the nude, which perhaps distracted from Dors Meekers flatness. His face was later shown to be a magazine photograph of the king of Bulgaria.

Before long materializations became much more life like. Once inside her cabinet the medium would apparently be securely tied and go into a trance. After a while the spirit would emerge. It moved and breathed. It might even shake your hand. In fact it looked like someone had dressed up like a ghost. But the faithful wanted to believe the spirits were genuine. There were occasions when the spirit form was grabbed and identified as the medium. The other sitters would be offended by this. It was not the thing to do in a seance, it was against the rules. It was even alleged that this would kill the medium, which of course it never did. The spirit form would then be hustled back behind the curtain, and return five minutes later with no knowledge of what had taken place.

With one exception, all practicing mediums were either exposed as frauds or quite often confessed. This did not diminish the popularity of spiritualism or the claims from new psychic practitioners. So Scientific American Magazine decided to put an end to the debate once and for all. In 1922 they offered a five thousand dollar prize to anyone who could prove genuine psychic phenomenon. But it takes a trickster to spot a trickster. And to win the prize the mediums would have to convince the greatest illusionist and skeptic of them all, Harry Houdini. The psychic who came closest to winning the prize was a well to do doctors wife from Boston, Massachusetts. Margery Crandon claimed to be in touch with the spirit of her dead brother Walter. She claimed Walter could make objects fly around the room and even ring an electric bell. Houdini later explained how he had placed the box containing the electric bell beneath his chair. He also bound up his lower leg for several hours before the seance to make it sensitive. Sure enough, Houdini felt Margery's foot slipping past his. Having discovered how Margery rang the electric bell, Houdini sneaked back into the seance room the following day, to see if he could work out how Margery had done her other tricks. One by one he recreated all of them.

After a visit to the medium Margery Crandon, Joseph Banks Rhine was

convinced that the study of psychic phenomenon should be brought away from the fakery of the seance room and into the laboratory. In 1927 attempts to quantify psychic phenomenon under controlled conditions began at Duke University, North Carolina. And they've been plagued with controversy ever since. The science of parapsychology was the brain child of Rhine. He was a biologist with an interest in the supernatural. But Rhine's first experiments in the field were an embarrassing dead end. He investigated the psychic abilities of a performing horse, Lady Wonder, and concluded that the horse actually was reading minds. It wasn't until the mid 1930's that he got any serious attention from the scientific community. It was in Rhine's laboratory that zener cards were invented. They comprised five symbols, a star, a circle, a cross, wavy lines and a square. The sender would pick a card and the receiver, who might be in another room, had to try to guess which one it was. What resulted were really boring experiments with marginally significant results that did not provide believable evidence. Cheating by the subjects and experimenters continues to be a problem for parapsychology. In fact parapsychology hasn't achieved any reputable phenomenon at all.

Most of the scientific community still does not accept parapsychology as a legitimate science. Perhaps this is because some parapsychologists have proved to be so gullible in the past. One of the most controversial hoaxes in the history of psychic research involves Steve Banachek. As a demonstration of his abilities he would drive a car blindfolded. "Scientists" at the McDonald Laboratory for Psychic Research investigated Steve over a period of three years. And were absolutely convinced that he had psychic powers. In the laboratory Steve demonstrated how he could move objects without touching them. Steve is not a psychic, he's a conjurer. His aim along with another magician was to prove how easy it is for fake psychics to convince "scientists" that they have paranormal powers. The hoax was orchestrated by magician James Randi. They would report to Randi after each session as to what they had done. Randi told them if they were ever asked if that was a trick or if they were doing tricks, they must immediately say yes and that they were sent by James Randi to test their ability to detect them. They were never asked. The "scientists" wanted to believe so bad that they let them get away with anything. They wanted to show their own beliefs rather than proving it to the world objectively and scientifically.

Many people want to believe so badly that they will ignore reality. They often still believe in a psychic after they are exposed or admit to a hoax. All the experiments over the years show that if psychic phenomenon exists, it is weak, variable and very difficult to pin down. The super psychics are claiming they have a power that is under their control and extremely powerful. And that has never been shown in the laboratory at all. In reality, their feats have more to do with theater than science. Magicians can replicate all the apparent miracles of the world's most famous psychics. Audiences don't know how magicians perform these tricks. But not knowing how something is done does not automatically mean that it must be supernatural.

Techniques for duplicating a hidden drawing have been known to magicians for years. And there are dozens of methods described in books and journals available to the magic trade. There are trick pads, fake envelopes and you can even buy a hidden transmitter. But there have been people trying to do it the

hard way, without tricks. In 1972 at CIA Headquarters in Langley, Virginia, Operation Stargate was formed. It was a United States government program formed to investigate psychic abilities and their possible applications. A process known as remote viewing was used. The remote viewer tries to visualize images in his mind that may be in the next room or half way around the world. The team of U.S. government psychics spent twenty years and twenty million dollars visualizing everything from the identity of KGB agents to the design of top secret enemy submarines. The stargate program was terminated because it was considered far too unreliable for military use.

James Hydrick certainly looked like a genuine psychic and many people were convinced. He could make a pencil spin without touching it, make a dollar bill turn on a pin under an upturned fish tank or ruffle the pages of a telephone directory. Danny Korem, a professional magician turned investigative journalist was suspicious. He persuaded Hydrick to take part in a television documentary. James fooled millions of people in this country, including scientists at the University of Utah. He built up a cult like following in Salt Lake City with a peculiar mix of martial arts and the paranormal. He would astonish his students by making heavy punching bags in his gym swing without touching them. He told his students to imagine the building was starting to rotate and crack. It only worked at a certain time of day. When the corrugated metal roof heated up it would expand and shift. That would cause the gym bags which were suspended from the ceiling to start to sway. One by one Korem began to work out how Hydrick's feats were done. Most of them depended on an extraordinary ability to exhale a strong stream of breath without it showing on his face or lips. It was strong enough even to pass through any tiny gaps between the fish tank and the table. He developed the page turning effect while serving a prison sentence using the bible to impress fellow inmates. He would tell them if they would pray with him the holy spirit would cause the pages of the bible to turn. Then he would blow on the pages, sometimes letting the inmates think they were causing the pages to turn. Hydrick became confused when he saw Korem replicating his own psychic phenomenon. And even thought that Korem might have genuine powers. Realizing he'd been found out, Hydrick agreed to make a full confession on camera. He said his reason for doing it was to see how dumb America and the world was.

Today the super psychics exploit our desire to believe with a home version of fortune telling. Using telephone hotlines, television shows and radio phone-ins they sow their seeds of deception. The technique typically used by these psychics is called cold reading. It makes people feel that generalized statements relate specifically to their lives. The psychic casts his net. "I get the impression that you..." then he pauses. "Or someone close to you..." he widens the net. "Is about to..." then he pauses. "Or maybe already has..." he widens the net again. This method can be surprisingly effective and convincing. The psychic can also assess the subjects character. The way they sit, the way they hold their hands, the way they react to certain questions. By reading this information given back to him, he can give an accurate character reading about the subject with amazing accuracy. Anyone could read a manual about cold reading and amaze complete strangers. But of course the best psychics have developed their act over the course of many

years.

For about one hundred and fifty years people have been claiming psychic powers. And as long as the tricksters keep inventing ever more subtle illusions, most of us will go right on believing them. So now former magician James Randi has issued a challenge. His educational foundation is offering a prize of one million dollars to anyone who can prove a genuine psychic phenomenon. With all the psychics around the world, especially here in America, you would think they would be breaking down the door. However, no one has even tried to claim it.

They tell you to believe on faith. And sometimes prescribe strange medicines. People are more frequently turning to the supernatural to cure health problems. To cure cancer, some people have ozone gas run through their hair. Some people with arthritis drag bees over their skin to get them to sting. It is supposed to make their joints work better. Iridologists say they can tell what's wrong with your entire body by looking in your eye. Millions go to arenas to see faith healers. Some go to Voodoo priests. And the latest craze is therapeutic touch. Three or four inches away from the body, the nurse supposedly feels the defective energy pouring out. Then she channels the healing energy of the universe through her hands to you. This is practiced in hospitals all over the U.S. by eighty thousand nurses. There is no scientific proof that this works. But patients say that doesn't matter, they do see some results. Scientists say it is the power of suggestion, a kind of placebo effect, and in some cases could be very dangerous.

To explore the mysterious powers of the mind, a medical team from Harvard University undertook a series of expeditions to northern India in the 1980's. Their equipment allowed for accurate measurements of stress levels, heart rate, and body temperature. Tibetan monks were the subjects. In an unheated chamber of the monastery, with snow on the ground outside, the monks began their meditation. Wrapping their near naked bodies in soaking wet sheets, they seemed to evoke a spiritual heat against the freezing cold. First they bring themselves to a quiet state of meditation. Then they visualize heat entering their body. And within five minutes there's so much body heat that the sheets begin to steam. Within a half an hour the sheets are completely dry. The expedition showed the monks could raise their body temperature as much as 17 degrees. Back in the laboratory the team discovers that different states of the mind produce detectably different electrochemical signatures. In particular, during meditation a unique brain wave pattern dominates the electroactivity of the brain. What we now know is that if you think in a certain way your metabolism will decrease, your blood pressure will decrease, there's decreased heart rate and a decreased rate of breathing. Whether it be repetitive prayer, yoga or meditation, they all evoke the same physiologic changes. We all possess these potential healing abilities and we no longer have to invent supernatural explanations.

In our everlasting quest to prove the existence of life after death we leave no stone unturned. Even today with our scientific and psychological explanations, many people believe near death experiences to be authentically spiritual. Near death experiences, or NDE's, unfold when an individual comes close to the brink of death or goes over that brink just for a moment or two. The heart stops, respiration stops and the blood pressure drops. In nearly every case the NDE begins with a sensation of weightlessness, commonly referred to as an out of

body experience. Followed then by a sensation of traveling down a tunnel usually towards a bright light. And then a being of some kind is felt to be nearby. Most people report a reluctance to return to their body. After the NDE they are often not afraid of death anymore, and retain a profound remembrance of their experience. Experts from around the world are recreating this phenomenon in the laboratory.

Effects that extreme g-forces have on the brain may help unlock some of the mysteries surrounding the NDE. For years fighter pilots have reported NDE like symptoms brought on by high speed turns and nose dives. During these times you get head to foot forces which pushes everything down. Blood pools in your lower extremities and your abdomen, away from your head. Researchers used a centrifuge to reproduce high speed flight conditions. Tunnel vision occurs first. Then loss of motor control, loss of sensory input and finally unconsciousness. Years of research with hundreds of pilots uncovered several intriguing correlations between pilot blackout episodes and NDE's. One of the symptoms is a short dream, called a dreamlet. The dreamlets have very specific characteristics. A feeling of floating. Visions of seeing friends and family. A feeling of being out of the body. A euphoric and pleasurable experience most of the time. And these experiences are extremely memorable. NDE's and these blackout experiences do have a few notable differences. Not everyone has an out of body experience, and they don't see god. But some differences are to be expected. NDE's are much longer and more threatening.

Other experiments stimulate portions of the subjects brain with low frequency magnetic pulses through a series of electrodes that are attached at various points. By stimulating certain lobes of the brain, specific individual NDE events can be induced. Subjects report a feeling of fading away. A feeling of a friendly being coming up from behind them. Once the electromagnetic stimulation stops, the NDE symptoms quickly fade. Subjects feel the being moving away from them and they become sad that it's going. They say if that's what one feels when their about to pass away, then there's nothing to fear about death.

Neurological studies have shown that when portions of the brain are deprived of oxygen they react in a predictable manner known as the cortical release phenomenon. For example, when the heart stops pumping blood to the temporal lobes of the brain, where memories are stored, massive amounts of neurotransmitters begin to randomly fire. This releases countless fragmented images and emotions associated with past experiences. When the parietal lobes lose oxygen the visual cortex becomes impaired. This can cause a feeling of floating or a tunneling effect. Research has shown that if blood flow is cut off to the occipital lobes subjects will experience intense bright light.

Many scientists say these experiences are just effects of a dying brain. Because our brains have evolved with a high level of self consciousness it has allowed us to wonder if there is a purpose or a destination for us. It is precisely this self consciousness that made it necessary to evolve a mechanism for shutting it down with the least amount of trauma. Not unlike endorphins, naturally produced substances that activate pain inhibiting systems in the brainstem and spinal cord. After the heart stops, the brain remains active. In cases of severe injury, pain is not needed to achieve immediate response and care. In this same

way, when there is no hope for survival it is unnecessary for the brain to experience this dying process. A chemical could remove our thought processes from an otherwise traumatic experience.

Just such a chemical substance has been linked to the NDE's. During the Vietnam war, soldiers were given an anesthetic called Ketamine. Back home it never caught on because it had one draw back. Frightened patients complained they felt as though they had left their body and traveled to another reality. Ketamine is different from other anesthetics in that it doesn't knock you out, it just separates the mind from the body. Science has found the natural equivalent to Ketamine in the brain. Without oxygen the neurons in the brain release glutamate which is the major excitatory signaling molecule. The flood of glutamate kills brain cells in a spasm of overstimulation. But the brain has a last line of defense. A chemical called nag which is released to protect dying neurons. Nag and Ketamine have the same effects on brain cells, which is to transport consciousness away from trauma.

While 90% of NDE's are positive experiences, 10% are negative ones. The negative ones are often experienced by people of questionable backgrounds and activities, experiencing guilt in their lives do to the influence of religion. They see an interpretation of hell. Of those experiencing positive ones, not every body sees Jesus. Some see other religious symbols, if they're not Christian. Some don't see religious symbols at all, they see lost loved ones that have died before them. During the middle ages most NDE's were interpretations of hell. This suggests that they were far more worried about the wrath of god. Indeed this was a time when religious influence played a much larger role in society and certainly accounts for this difference.

In our quest to understand ourselves and the world around us scientific investigation has debunked much of the supernatural world. It explains that NDE's are an interactive effect between neurochemistry, psychology and cultural influences in your life. It has proven nearly all psychic mediums to be fraudulent. And exposes many other supernatural claims as untrue. However, as long as people refuse to understand this, there will be charlatans eager to exploit their willingness to believe.

# RELIGION

A fleeting glance into religion and other superstition appears to suggest only positive consequences. However, on closer examination one finds that there is harm in not being in touch with reality. We don't want to be part of the natural world so we invent a more flattering one. But those who put their hope in this new world for answers are almost always disappointed and very often devastated. Psychics provide false hope and false information to the believer. Often dividing families and ruining lives. Police waste hours following leads from psychics who say they sense things. Many people are victims of robbery and extortion through implied threats and induced fear by corrupt televangelists.

Many religious followers reject science pertaining to evolution. But one area of the sciences that most accept is medical science. Not surprisingly, this is because it has doubled the life span of humans in the last 150 years. Superstition has absolutely no part in this. However, there are some whose convictions to superstition are so strong that they reject medical science entirely, often dying younger. Others put faith in the latest supernatural cure, with dire consequences. All we have to do is examine history to see what happens when you exchange reality for superstition.

Religion has slaughtered, tortured and mutilated more human beings than any other force on earth. Despite this, there are people who will argue that religion, even though it's not reality, serves a valuable purpose in society. That it teaches us to be a good person and to help our fellow man. However, helping one another is not a spiritual activity. Many organizations exist to help man that are not affiliated with religion at all. Moreover, it is completely natural to help one other. Animals throughout the animal kingdom assist one another to ultimately benefit and promote the species. People also argue that the lack of religion in modern society is responsible for our present social problems. But the facts contradict this view. In most countries where religion is widely practiced there are more social problems and more crime than in many other countries where religion is less practiced.

So saying that being religious equals being a good person is a long way from being true. And by studying the facts of history we find it has never worked that way. Of course as with any rule there are exceptions. But the godly or good persons are distinctly the minority compared to all of the atrocities that continue to be committed in the name of God and religion. Because religion is the cause of all this suffering it can not possibly be the solution. Many religions tell their followers not to think. To believe on faith and blindly follow their moral dictates. Soldiers are also told not to think and to blindly follow orders. And the orders given by both religion and the military are often the same. To kill other human beings. And both justify it as being in the name of God.

Archeological and historical evidence indicates that ritual murder was an important part of religious activity in almost every part of the world. For thousands of years many religions were based on the spilling of blood through the rit-

uals of human sacrifice. Because blood was the very essence of life itself, they believed it to be the ultimate gift anyone could offer to the gods. And often the victims went willingly to their deaths. The Aztec priests of Mexico sacrificed thousands of people in a single day. They sacrificed to all their known gods, from the mighty feathered serpent god to the delicate butterfly goddess. The favorite place for Aztec sacrifice was the top of pyramids. Bloodletting was not the only form of sacrifice. Extraction of the heart, drowning, stoning, decapitation and shooting with arrows were other methods. The subject would willingly go up the steps, praising the aztec gods and willfully give himself over to the sacrifice. They went willingly because a reward would come immediately after the sacrifice. He would go to heaven, to the sun, and accompany it daily in its triumphant passage through the sky.

Across Europe, from Ireland to Germany, many well preserved bodies are being discovered. Scholars have concluded the corpses were victims of a sacrificial rite practiced two thousand years ago. The bodies in some cases were severely battered and had multiple wounds. They were then dumped into the waste land of the bog as a gift to local gods.

Human sacrifice was a customary religious practice of the Canaanites, neighbors of the land of Israel. They would often cast children into a pit of flames to satisfy their god, Baal. When the ancient states of Israel and Judah were under foreign rule, they began to adopt the practices of their Assyrian and Babylonian overlords. It is probable that some of these practices included the sacrifice of children. Jeremiah 19:5; "They have built also the high places of Baal, to burn their sons with fire for burnt offerings unto Baal, which I commanded not." Even the kings of Judah sacrificed children by burning them. The books of Jeremiah, Ezekiel and Micah condemn it calling it an abomination. And through the story of Abraham and Isaac the people were being told to abandon the practice for a new god. But this new god wasn't any less blood thirsty. They just changed it from the sacrifice of humans to that of animals.

Nowhere was the practice of child sacrifice more common than in the Mediterranean city of Carthage. It flourished at the same time as the Roman Empire. Like their ancestors the Biblical Canaanites, Carthaginians worshiped the god Baal. During the hard times of Carthage, between the fourth and second centuries BC, as many as twenty thousand children were sacrificed. Carthaginian parents had a difficult time with these religious obligations. History records that the priests of Baal played drums during their sacrifices to drown out the cries of the weeping mothers. It didn't take much to convince these parents to stop sacrificing their children.

But the conversion was not an easy one. Sacrificing children paled in comparison to the horrors of religion in the centuries to come. The early church was not a uniform movement. Each church had its own version passed down by their strong oral traditions. Many held on to beliefs considered far out of the mainstream. One of the earliest was gnosticism, a religious movement that influenced the Mediterranean world from the 1st century BC to the 3rd century AD. It expressed itself in a variety of pagan, Jewish, and Christian forms. The gnostics believed they and they alone were capable of redemption. Through their secret code of truth the gnostics claimed they had arrived at a total understanding of



God and themselves. The most dangerous gnostics were those that had infiltrated Christianity. One such group in Egypt rejected the resurrection, denied Jesus had ever been a man, and denied his body had become a spirit. As Christian orthodoxy was defined gnosticism was pushed to the periphery of the Christian world or driven underground by the persecution and execution of church leaders.

When they weren't killing each other they suffered persecution from the Romans. Emperor Hadrian who ruled from 117 to 138 had a bad attitude toward the Jews. His prohibition of circumcision and his decision to build a shrine to Jupiter Capitolinus on the site of the Temple of Jerusalem incited a serious Jewish revolt, which he ruthlessly crushed. Marcus Aurelius who ruled from 161 to 180 was a benevolent and humane emperor, with one notable exception, he brutally persecuted the Christians. Emperor Decius who ruled from 249 to 251 blamed the decline of Rome on those who refused to honor the old gods. He ordered everyone in Rome to worship the pagan gods and resorted to torture of Christians in the colosseum. Diocletian who ruled from 284 to 305 was one of the ablest Roman emperors. One of his less constructive measures was the great persecution of the Christians that he ordered in 303.

Then Emperor Constantine I who ruled from 306 to 337 legalized Christianity, thereby enlisting the church in service of the state. All buildings and land confiscated from the Christians were returned. Before 312, Constantine was a tolerant pagan, willing to accept new gods, but not committed to any one deity. Between 312 and 324, however, he gradually adopted the Christian God as his protector and on several occasions granted special privileges to individual churches and bishops. His alliance with Christianity was strengthened by the political quarrel with Licinius. Constantine and Licinius were left in control of both halves of the empire. The two rulers were soon at odds. Constantine made Licinius give up all his European lands except Thrace. And subsequently, Licinius began persecuting Christians. In the ensuing civil war, politics and religion became so entangled that contemporaries described Constantine's conflict with Licinius as a crusade against paganism. Soon after his victory over Licinius in 324, Constantine openly embraced Christianity. But while emperor Constantine was a Christian, the senate of Rome was not. Constantine moved from Rome and established a new imperial capital in what is now known as Turkey. He named it Constantinople.

The next emperors of Rome were notably tolerant of Christians. Some were just as committed to the Christianization of the empire as Constantine I. For the first time religion and government could now join forces. It was a new era. And Pope Damasus I was the first to take advantage of that. He was quite ruthless. He used the police to put down heresy and rival groups within Rome. No pope before his time could simply call on the police and ask them to suppress their adversaries. Pope Damasus came to power in 366, when he and his followers smashed their way into the Church of Mary Majors to overthrow a rival. In the fight that followed 137 corpses were carried out. All of them were opponents of Damasus.

In the year 476 a barbarian king deposed the last Roman emperor. Italy was a barbarian kingdom. The political center of the Roman empire shifted to Constantinople. Emperor Justinian I, or Justinian the Great, ruled from 527 to

565. He believed he was God's representative on earth. Since Emperor Constantine, the relationship between church and state had always been that the pope decided doctrine and the emperor enforced it. But Justinian took it one step further. He legislated independently of doctrine which brought him in direct conflict with the papacy. The reason he did this was to try to resolve the monophysitism controversy which was splitting his empire. Justinian's aim was the restoration of the earlier Roman Empire by reconquest of areas lost to the heretical Goths. For twenty years the campaign to recover Italy raged. When it finally ended there was little to celebrate. Justinian's victory left Italy ravished and impoverished. A third of its population had been killed.

In the year 590 Italy was inherited by Pope Gregory I. The Catholic church had been established in the mediterranean area for some 400 years. But now it was being torn apart by the old heresies surrounding the nature of Christ's divinity. Born in Mecca and founder of Islam, the prophet Muhammad would crack the foundation of Christianity. Like Christ, Muhammad was called on to preach the message entrusted to him by God, and was said to have ascended to heaven in Jerusalem. Like Judaism and Christianity, Islam traces its origins to the biblical patriarch Abraham. This new religion captured the Arab imagination. Carthage fell to Islam. So did Alexandria in Egypt. Once the greatest center of Christian scholarship, its churches were replaced with mosques. At Muhammad's death in the year 632, Islam had been confined to the Arabian desert. But over the next 12 years his followers conquered the lands of Syria and Egypt. Within a century their conquest covered the entire North African coast and Spain. Many of its people turned against Christianity and Christians. Of the ancient centers of Christianity, only Rome offered a safe haven.

In 717, Emperor Leo III and Pope Gregory II had the worst confrontation there had ever been between an emperor and a pope. The emperor confiscated all papal lands in southern Italy and Sicily. But by the late 700's King Charlemagne of the Franks gave the pope two thirds of the peninsula of Italy. For centuries the balance of power went back and forth from church to state. And now it was shifting back toward the church. The papacy was growing stronger, wealthier and more powerful by the day. Then from the years 896 to 1045 came a rash of scandals in Rome. Nine months after his death Pope Formosus was dug up and put on trial by his successor Boniface VI. Roman citizens were outraged by the trial of a dead man. They deposed the new pope who was then strangled to death in prison. Pope John XI was the illegitimate son of Pope Sergius III and a prostitute. Pope John VIII was clubbed to death by his own associates. Pope Leo V was murdered by his successor. Pope John X was suffocated to death while in prison. Pope Stephen IX was also mutilated in jail. Within weeks of being elected pope, nuns were praying for John XII's death. They said the young pope was inventing sins unknown since the beginning of time. It was said he toasted the devil at the high altar. He died at the age of 27 from a stroke while in bed with a married woman. The rich aristocrat father of Pope Benedict IX paid a fortune to assure he was elected pope. Not only did Benedict have a prior criminal record, but he set new papal records for sin including, they say, bestiality and Satanism.

On Christmas Eve in the year 1075 Pope Gregory VII was saying mass when the governor of Rome marched in with his soldiers. They dragged the pope

out by his hair and spent the night torturing him. The next morning a group of Romans freed the pope who then returned to church to finish the mass. This story is symbolic of the hostility between church and state who both claimed their authority came straight from God. During the dark ages the scales were mostly tipped in the favor of the state. Pope Gregory VII reversed that trend by introducing a list of 27 propositions asserting the absolute rights of the papacy over the church and prohibiting secular interference in church affairs. In 1076 Emperor Henry IV directly challenged the pope by appointing a number of bishops and abbots in Germany and northern Italy. Pope Gregory excommunicated Henry setting off civil war in Germany.

In the year 1095 Pope Urban II called for the first crusade and enlisted most of western Europe in his cause to rescue Jerusalem from Muslim control. It was the largest army in the history of the world. With the cry *Deus vult!* (God wills it), thousands took the cross. Some began by massacring Jews in the Rhine valley. Then in December of 1099, after a torturous march, the crusaders launched an all out assault on the holy city of Jerusalem. The carnage was so bad that there were accounts of men wading in blood up to their ankles. After the slaughter, the soldiers of Christ found an image of Jesus and wept for joy. Pope Urban had promised that those who fought would be granted total forgiveness for all their sins. And those who died in battle would be rewarded with martyrdom and paradise.

The pope had to make deals to enlist some of the crusaders. The most feared warriors, the Normans, were receivers of just such a deal. The pope proclaimed William, the leader of the Normans, as king of Sicily. He was given certain rights over the church on the island. That Pope was Adrian IV, the one and only English pontiff. He extended similar rights to the northern outpost of the Normans in England. The king of England now had the right conferred by the pope to incorporate Ireland into his realm. At the time, the church in Ireland was already beginning the process of reform. Church leaders were determined to tear down centuries of Irish social customs in their attempt to build a new and reformed Irish version of Catholicism. Some in the church felt the Irish were beasts. And it was certain that reforming the church would change all of this. In 1155 King Henry II proclaimed he was authorized by the pope to take possession of Ireland. The English Pope Adrian had begun the first round of the long and tortured relationship between England and Ireland.

In 1209, Pope Innocent III called for a new crusade against the Cathars in southern France. The Cathars saw women as the equals of men. Women even preached the gospels. Their parishioners followed a pure simple Christian life and denounced the wealth of the Catholic church. This was heresy so a massive army was assembled to weed out the heretics. When it reached the town, women and children fled to the church for sanctuary. The crusaders stormed the church with a rallying cry, "kill them all, God will know his own". The bloodthirsty crusaders then marched on to the next town. Those suspected of heresy were tied together on lines, their noses cut off, their eyes gouged out and led to the next town to warn the people of what was coming. In the massacre of the Cathars, ten times more Christians were killed than the total number martyred in the old Roman colosseum.

The papal Inquisition was formally instituted by Pope Gregory IX in 1231. Problems with sects like the Cathars and Waldenses in the 12th century led to the episcopal Inquisition. Gregory ordered convicted heretics to be seized and burned. The first inquisitors worked in central Europe. Later centers of the Inquisition were established in the Mediterranean regions, especially southern France, Italy, Portugal, and Spain. In 1244 the church struck against the remaining Cathars and burned 210 of its members at the stake for its belief in reincarnation. The tribunal was used in England to suppress the Lollards, followers of the 14th-century reformer John Wycliffe. Among the innumerable victims of the Inquisition were such famous people as the philosopher Giordano Bruno, Galileo, Joan of Arc and the religious order of knights called the Templars.

In the middle of the 14th century Europe was hit by the plague, or the black death. Many considered it God's retribution on a sinful world. People attacked their Jewish neighbors, accusing them of having poisoned the wells. Groups such as the flagellants blamed the Jews for the spread of the disease and wiped out entire Jewish populations. The flagellants were groups of Christians who subjected themselves to ritualized whipping as atonement for sin. The flagellants would assume the position of their worst sin. Then the leaders would beat them with a whip. This whip was a stick 2 or 3 feet long with leather thongs on the end of it and metal embedded in the thongs. Ironically this did more to spread the plague than to stop it because their bloody open wounds were prone to infection.

The Reformation began in Germany in 1517, when Martin Luther posted 95 theses inviting debate over the legitimacy of the sale of indulgences. All over Germany people rallied around his message of the simplification of religious life. The papacy viewed this as a gesture of rebellion and proceeded to take steps against Luther as a heretic. But Pope Leo X made no attempt to correct the abuses Luther had targeted. The Catholic church in Germany quickly fell apart. But Emperor Charles V, soon to be holy roman emperor, was a devout Catholic. Germany descended into a bloody holy war. He launched many military campaigns against the Protestant heretics. Finance became the emperor's greatest practical problem. The feud came to a head in 1527 when the unpaid Imperial army took matters into its own hands and marched on Rome. None of the troops had been paid for months. Many of them were anti-Catholic Lutherans. In the first week of May they invaded Rome. Soldiers rampaged through the city murdering and raping. Priests were tortured and the Vatican was looted. German troops gathered under the pope's balcony screaming obscenities and threatening to eat him.

In the early stages, French Protestantism was largely inspired by Martin Luther. However, by 1550 the movement spread so rapidly it included one-fourth of all Frenchmen. After that date, the leadership of the movement was increasingly taken over by John Calvin. French Calvinists (Huguenots) were the targets of the "Wars of Religion". These religious and political civil wars were fought from 1562 to 1598 and were caused by opposing religious lines between members of the Huguenots with ties to nobility and two weak monarchs supporting Catholicism. The Huguenots formed a strong and often aggressive minority in their conflict with the Catholic crown. But on August 24, 1572, several thousand

Huguenots were killed in the Saint Bartholomew's Day Massacre. The killing began in Paris and was extended to the provinces, continuing until October. It is estimated that tens of thousands were slaughtered.

Pope Paul IV who served from 1555 to 1559 suspended the Council of Trent indefinitely and endorsed the idea of compiling a long list of forbidden books. He also expanded the reach and authority of a new weapon to be employed for the oppression of heretics. This was to be used in the Roman inquisition. Pope Paul said if his own father was a heretic he would gather the wood to burn him. When the Pope died the people of Rome went wild with joy.

In 1616 Pope Paul V, in response to Galileo's advocacy of Copernicanism, placed Copernicus's *De revolutionibus* on the Index of Forbidden Books. The Jesuits quickly became the target of Galileo's bitter tongue, and he was warned not to teach or defend Copernicanism in public. In 1623, Maffeo Barberini, long-time friend to Galileo, became pope as Urban VIII, and Galileo obtained his permission to write a book impartially discussing the Ptolemaic and Copernican systems. However, Galileo underestimated the power of his enemies, and he was called to Rome for trial by the Inquisition. In June 1633, Galileo was condemned to life imprisonment for "vehement suspicion of heresy." His dialogue was banned and printers were forbidden to publish anything further by him or even to reprint his previous works. Galileo's sentence was swiftly commuted to house arrest, where he resumed his studies. And in 1891 Pope Leo XIII responded to an outcry from many people that the church was opposed to science research. In a desperate effort to control this he had an observatory built at his summer palace near Rome.

In 1486 Pope Innocent VIII authorized the "*Malleum Maleficarum*" or Hammer Against the Witches. It was a supplement to the scripture of Exodus 22:18; "Thou shalt not suffer a witch to live." It was a book intended to aid in identifying and destroying witches. This book had more printings than any other book with the exception of the Bible itself. It was distributed in half a dozen languages across Europe. Women quickly became the predominate targets of the Christian witch hunters. Folk healers who made potions were traditionally women. Adultery was thought to be a woman bewitching a man. Theology taught that women were weaker than men and more likely to succumb to the devil. They also thought the witch was assigned a demon by the devil. This demon would live in the body of a normal household animal. So if you were a women who had a dog or cat you were automatically a suspect. All they needed was a curse or a spell. And a bad harvest, a disastrous storm, an epidemic of the plague or anything unexplainable would be blamed on the spell of a witch.

An early test was called swimming the witch. It involved binding the suspects wrists and throwing her into deep water. If she sank it was proof that God's water was accepting her. If she floated the water was rejecting her and she was a witch. Either way the verdict was often fatal. Another test was even more unfair. The suspect was placed on one side of the scales and the Bible on the other. If she weighed more than the holy book she was a witch. The accused were often tortured until they confessed or accused others. A popular test involved stripping the suspect naked to look for marks of the devil. The courtroom became a playground for the sexually suppressed Christian community. Since a mole or birth-

mark was proof enough the examiners were rarely disappointed. Proven guilty, the witch was executed by hanging or beheading. Then the corpse was burned at the stake. When Martin Luther and John Calvin split from the Catholic church they were just as relentless at persecuting witches. Prince Bishop Gregore II killed more than six hundred people. But instead of burning the corpses, he burned the accused alive. In the last legal witch trial, occurring in 1782, a Swiss woman was beheaded. In all, over one hundred thousand people were murdered in the name of God.

Both Judaism and Christianity historically have viewed homosexuality as sinful. Leviticus 20:13; "If a man also lie with mankind, as he lieth with a woman, both of them have committed an abomination: they shall surely be put to death; their blood shall be upon them." This religious condemnation was put into written law. As a result, homosexual activity became a crime, for which the penalty in early courts was death. The Fleta, 1290AD, is the first mention of criminal punishment for homosexual behavior in the English common law tradition. It prescribed that sodomites were to be buried alive, but may not have been adopted. The Britton, 1300, prescribes that sodomites are to be burned alive, but there is little indication that this was carried out in England at this time. However, such executions are known to have taken place on the continent where their sanction derived from an enactment of Justinian and served to link sodomites to heretics. The Buggery Act, 1533, defines it as a felony punishable by hanging until dead. The number of executions for buggery in Britain increased at the end of the eighteenth century and into the second decade of the nineteenth century. The death penalty for buggery was not formally abolished in England and Wales until 1861.

These horrifying events unquestionably stand out in history. And religious leaders would like us to forget that they ever happened. Indeed many of us already have forgotten them. However, unless we acknowledge them, and learn from them, history will repeat itself. In addition to these well documented events of mass murder there are undoubtedly many other cases that have gone undocumented or perhaps just forgotten. But because the horror happens on a smaller scale, one instead of one thousand, it doesn't make it any less wrong. And certainly the ease in which these crimes have been committed demonstrates that religion leads to a devaluation of this life. You would think that in the twentieth century things would be different. Sadly today nothing has changed. Arabs and Jews continue to kill each other throughout the middle east. Catholics and Protestants murder each other in the streets of Northern Ireland. Hindus and Muslims assassinate each other in India and Pakistan. Christians and Muslims desecrate each other in Beirut. All in the name of a fictional character our ancestors invented thousands of years ago.

Most people attribute these acts of hate and violence to fanaticism. A few people reading something into the "Good Book" that is not really there. However, this book is in no way good. And if people would stop making excuses for it and actually read it they would soon come to that conclusion. Many stories throughout the bible, even those we teach to our children such as Noah's Arc and Passover, glorify the mass murder of innocent women, children and infants. And somehow this reality eludes us. More blatant hatred is seen throughout the old

testament stories of the Israelites 40 year quest for the promise land. On their way from Egypt to what is now modern Palestine, God and Moses commands them repeatedly to commit genocide. Time after time, story after story, the Israelites were instructed by God to murder and plunder millions of innocent women, children and infants. (Deuteronomy 2:33&34; Deuteronomy 3:5&6; Deuteronomy 7:1&2; Numbers 31:15-17&35; Joshua 11:12-15; 1 Samuel 15:3) As you can see, people are not reading something into the bible , they are simply reading the bible. They are just doing what they have been taught to do by parents and teachers who told them to embrace scripture.

One would think these despicable acts of religion couldn't possibly happen in the United States of America. THINK AGAIN ! In the United States religious cult members increased during the early 1970s when some groups began aggressively recruiting young people. These dangerous organizations with their distorted views often result in mass suicide. White supremest organizations quote the Bible to justify their crimes of hatred. Church leaders and laymen alike quote the scriptures in defense of their often bloody war against abortion and homosexuality. For centuries American religious leaders and their organizations have been fighting crusades to legislate their irrational religious beliefs. As history shows, this combination of religion and politics would yield disastrous results. Will we ever learn?

In 1978 more than 900 members of an American religious cult called the People's Temple went willingly to their deaths. Jim Jones founded his church, first called the Christian Assembly of God, in Indianapolis, Indiana. He preached a gospel of social and racial equality. In 1965, Jones and his followers moved to California, first to Redwood Valley and later to San Francisco. The popular temple attracted attention by its programs to help the poor, and in 1976, Jones was appointed chairman of the San Francisco Housing Authority. Within a year, however, allegations were heard that Jones exercised a sinister power over his followers, extorting money from them, encouraging sexual promiscuity, and enforcing discipline by beatings and blackmail. Jones and 800 followers fled to the previously acquired site at Jonestown, Guyana. In November 1978, California congressman Leo Ryan visited the commune to investigate the charges against Jones. On November 18, Ryan and several of his party were murdered, after which Jones ordered his followers to commit suicide with him by drinking a concoction of a powdered fruit drink and cyanide. Although some were forced, many apparently followed the order without question.

The Branch Davidians were a religious cult that branched off of the Davidians, a small sect which itself had split from the Seventh-Day Adventist Church during the 1930s. The cult's more than 100 members built a compound located near Waco, Texas. The leader, David Koresh, claimed to be the Messiah and convinced his followers that it was permissible for him to have sexual relations with female children as young as ten. He also told his followers that the Apocalypse, as predicted in the Bible, was at hand. He stockpiled sufficient weapons and food to withstand a long siege. On February 28, 1993, federal agents attacked the compound. The fight that ensued left 4 agents and 6 cultists dead. The FBI tried to negotiate their surrender but Koresh refused, and the siege of the compound lasted 51 days. Finally, on April 19, federal agents using

armored vehicles tried to break down the compound's walls and began pumping tear gas into the building. The cult members complied with Koresh's order to commit mass suicide, and nearly a 100 of them, including 17 children, died in the fire or from gunshots fired by Koresh and other leaders. Two years to the day following the federal assault on the Waco compound, the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma, was the target of a terrorist bombing in which 166 died. Chief bombing suspect Timothy McVeigh reportedly stated in custody that he had been angered by federal actions taken against the Branch Davidian compound.

Father Damon Trosch, a Catholic priest from Mobile, Alabama, is among the many of his kind who oppose abortion. However, he and a few others take it one step further. They advocate murdering abortion doctors. Father Trosch applauds the murderers and believes they have a special calling from God to do what they do. He claims Catholic theology dating back for hundreds of years states that it is an act of charity to murder abortion doctors. According to Trosch, the massive slaughter of abortion doctors is a matter of gods will, and it is the only appropriate and effective response to the worlds greatest evil. He claims that one or two doctors being killed a year isn't going to mean a whole lot, but if you start killing ten or twenty doctors a year that's going to mean quite a bit. When asked about compassion for the doctor's family he replies, I have no compassion for them because unfortunately the sins of the fathers pass down to the children and the family and they're all contaminated by him. Believe it or not the Catholic church still employs this person, and he remains a Catholic priest.

For hundreds of years, before the abortion battle, the Catholic church routinely refused to bury or baptize a miscarried fetus. The Catholic church now holds funeral services by the thousands for fetuses from abortions. This is not a religious gesture, it is a political one. Separation of church and state is not and never has been a reality. Crusades to incorporate religious views into politics are nothing new in American life. These movements have repeatedly swept across the American landscape. They were largely made up of Protestants who believed the Bible was the inspired and infallible word of God. And their goal was to legislate that view. In the 18th century George Whitefield led a revival called the great awakening. It spread throughout the thirteen colonies inspiring evangelicals to claim their religious and political freedoms. A century later a second great awakening surged through the south and west. In the north revivalist Charles Finney preached that evangelicals should fight for legislation that followed the law of God. In the late 19th century evangelist Dwight L. Moody led another wave of revivals against the lures of modernism. When modernism prevailed Billy Sunday stepped in raving against drinking, dance and sexual immorality. In the 1920s evangelicals saw the teaching of Darwin's theory of evolution as a direct assault on the infallibility of the Bible. In 1925 when teaching evolution went on trial, in the Scopes case, their passionate defense of the scriptures made them the laughing stock of the nation. Humiliated, evangelicals retreated from public life.

Then in the 1950s evangelical preachers were awakened by their fear of global communism. It was called an international criminal conspiracy and a directed way of life. They thought the best way to defend against it was to strengthen the democracy with Christianity. This fear of communism also affect-



ed the civil rights struggle. White Christians felt we were losing a sense of our values, standards and principles in America. One of the many cities divided by the civil right struggle was Lynchburg, Virginia. It was also the home of Thomas Road Baptist Church, led by pastor Jerry Falwell. In his sermon on the subject he questioned the sincerity of Dr. Martin Luther King Jr. and equated the civil rights struggle to a communist take over. Pastor Falwell has since admitted that he was wrong and his sermon was incorrect. He said racial prejudice was taught to him as a young preacher by his mentors who also were wrong.

In 1962, the Supreme Court for the first time began to restrict religious activity in America. In the case of Engel v. Vitale the court ruled against New York State's classroom prayer requirement. Evangelicals saw this decision as openly hostile towards religion. People said this was really the beginning of the end of America. We had turned our back on God and any country who did that couldn't stand. Evangelicals began to question their exclusive focus on preaching the gospel and decided to make a direct appeal as political conservatives. The Barry Goldwater campaign in 1964, was one of the first to run on moral issues. Many got active in politics for the first time. Although the Goldwater campaign was not successful, the evangelicals saw it as rallying for the potential of future victories. Religious leaders who were committed to traditional morality began to see the country changing in ways they didn't like. The early sixties were nice and innocent. Then there was an incredible turning toward immorality. The sexual revolution was on.

Orange County, California was the scene of the introduction of sexual education. The curriculum was encouraged by the Sex Information and Education Council of the United States. The program was started in the 1968 school year and taught at each grade level of 7-9. The objective was to show how important human sexuality was in human development and to encourage responsible sexuality. The opposing conservative groups were organized since 1963 and they were eager to attack. It started with small groups. Then to gain support the groups made up stories. They accused the teachers of engaging in intercourse in front of their students. And claimed the program was making homosexuals out of the heterosexual students. Another popular complaint was that they were putting human love on the same level as biological, or animal love. And they weren't animals. The groups grew bigger and they began attacking individual teachers. Newspapers would be full of letters smearing teachers. They demanded an investigation into the private lives of the teachers. A psychiatric investigation of anyone involved to see if they were considered sexually normal. Mr. and Mrs. William Drake produced a film called "*Pavlov's Children*", a shock film against religious immorality. Then the book, "*Is the Little Red Schoolhouse the Proper Place to Teach Raw Sex?*". It sold one million copies. They declared that sex education was an attack on God, the Bible and spirituality. And it also brings man down to the place of an animal. In the end religion won. Many teachers in Orange county were fired and the program was cancelled.

These new movements gave rise to an increasing number of superstitious voters. The annual prayer breakfast in Washington became quite a popular event. It was sponsored by congressman who met weekly to pray before passing legislation. With the nations approval it featured the Rev. Billy Graham and his favorite

president, Richard Nixon. It was Richard Nixon who brought religion center stage in American politics for the first time since the 1950s. His public friendship with America's best known evangelist was a shrewd political move. Nixon knew very well that Billy Graham was a very influential man in America. He recognized that there were voting blocks that were enormously influenced by religious leaders. He also recognized that the evangelical vote was the key to the south. So he began to invite evangelicals to the White House. Church services were held in the east room. And the religious leaders who would give the biggest political advantage were invited to attend.

The summer Richard Nixon resigned, in 1974, Christians in West Virginia began a fight that became known as the Conold County textbook war. It was aimed at removing a half a dozen publications said to have a definite anti-Christian slant. The evangelicals claimed the purpose of the books was to open the children's minds to ideas that were contrary to the views being taught at home. Many school board members and teachers reviewed the books and found nothing wrong with them. They claimed the books expressed a multi-cultural view. They were designed at the beginning of the 70's and reflected the progressive thought and the hope for change at the end of the 60's. The textbooks were intended to be used so the children could discuss ideas and develop verbal skills. To open themselves up to one another. The publications were: *"Humorous Stories"* by James Higgins, *"The Whipping"* by Fredrick Douglass, *"Little Black Riding Hood"* by Wayne Figueroa, *"Bessie Smith Empress Of The Blues"* by Studs Terkel, *"Love is a Fallacy"* by Max Shulman, *"The Ballad Of The Carpenter"* by Ewan MacColl, *"My War With The Machines"* by Woody Allen.

When the books were adopted in the spring of the year, before school was out for the summer, there was only one female board member who opposed them. She had successfully squashed a sex education program the year before by developing a campaign against it. In fact that made her a conservative hero and got her elected to the school board. She started having community meetings, campaigns and even put ads in the paper. Her husband was a preacher and many other preachers got on the band wagon after it started. By the time school opened it was an extremely explosive situation. The entire community believed that the Bible was the inherent word of God, that it was true. They claimed the textbooks were challenging that. Many were still upset that the Bible was taken out of the schools. The book protesters enlisted the aid of the miners who would strike anytime something came up. This gave a financial power to the protesters. The strike was costing millions of dollars a day. School officials received threats on their lives. A bomb blew up a classroom in the middle of the night. The Heritage Foundation came in to give legal support and money to ministers who were jailed during the book rebellion. They succeeded in getting the books removed from the classrooms in all schools in the county. Some of the books were revamped. The controversial material was simply taken out, they were sanitized.

During the 1970s there was a wedding taking place between religion and politics. Congressman John Conaly made a speech at a Billy Graham rally claiming that government was ordained by God and a good Christian should be involved in politics. As the nation approached the 1976 election, Watergate left an

atmosphere of sinicism and a general lack of interest toward presidential politics. Jimmy Carter was a man who clearly stated his faith and appeared to be the cure for America's voter apathy. Mainstream press in this country didn't really know what an evangelical was, but they were intrigued. And after Carter professed he was born again the press went wild. Jimmy Carter's faith did appear to be genuine. He taught Sunday school and went to church every Sunday. However, the publicity was clearly aimed at a superstitious America and ment to benefit his campaign. A movement called Campus Crusade for Christ joined Carter's camp. Followed by Pat Robertson and of coarse Billy Graham.

Anita Bryant was the spokeswoman against the homosexual civil rights movement. She said she was trying to protect her children from being recruited by homosexuals. In retaliation for her uninformed commentary, pies were lobbed at her face. This made her somewhat of a martyr and ministers rushed to her rescue. The campaign was launched and the slogan became "The American family, is it an endangered species?". Next came the organization called Stop ERA. They claimed the equal rights movement was a fraud and it didn't benefit women. Churches were told the ERA movement was a threat to them. They united Protestants, Catholics, Mormons, Orthodox Jews and Baptists. The crusade was ready for confrontation. When they asked president Carter why he supported ERA, he said it was good for the family. This infuriated the evangelicals that had once strongly supported him. After receiving negative feedback from religious leaders Carter formed the "White House Conference on the Family".

The first problem of the conference was they couldn't decide what a family was. The evangelicals wanted the definition of the family to be the traditional "Clever family" scenario. And the rest of the conference wanted a broader definition. The possibility of homosexuals being included in the family was the reason the evangelicals didn't budge. They were very much opposed to the equal rights amendment, abortion and homosexuality. Although these were not the issues on the agenda, conservatives kept addressing them and the conference kept dismissing them. The purpose of the conference was not to exclude people, it was to come up with ideas that included everyone who had needs in America. Because they could not enforce their religious prejudice they walked out of the conference claiming it was rigged. The evangelicals then formed the Pro-Family Coalition and promptly attacked the conference and President Carter.

The objective of religious leaders was to get people who had the same morals but different traditions to come together. Dr. C. Everett Koop and Francis Schaeffer did this through the topic of abortion. They released a film called "*What Ever Happened To The Human Race?*". It claimed that abortion was not just a Roman Catholic issue. The obvious conclusion evangelicals drew from this film was that abortion was against God. That was all they needed to join the crusade. Jerry Falwell's first sermon on abortion was in 1978. And was followed by Moral Majority Inc., a political organization including some 72,000 pastors who take a pro-life, pro-traditional family and pro-moral position. But they insist it's not a religious organization.

In 1980, as with Jimmy Carter four years before, Ronald Reagan said all the right things to obtain evangelical support. He talked frequently in his speeches about prayer in schools and family values. He would often remind people this

was one nation under God. He also seemed to take an anti-abortion stance. Reagan soon gained the approval of Jerry Falwell and Evangelist James Robison. Many thought the issue of abortion would decide that election. Carter supported the supreme courts decision. Jerry Falwell's organization launched a vigorous campaign with flyers, commercials and appearances. Reagan promised Falwell he would help end abortion and return prayer to public schools. Once again with the assistance of religion a president takes office.

After Reagan was elected he did submit an amendment on school prayer. However, it did not pass and Reagan was accused of not even trying to get the bill passed. Then Reagan nominated Sandra Day O'Connor to the supreme court. The evangelists went berserk at the Rally for Life where they attacked her record as pro-abortion. Then Reagan gained some ground when he appointed Dr. C. Everett Koop as surgeon general. Koop had a long history of radical religious beliefs. In fact the American Public Health Organization for the first time in its 109 year history opposed this choice. They questioned his ability and willingness to separate his personal religious beliefs from his public policy judgements and behavior. In this country the aids epidemic surfaced in the homosexual population and received criticism from the religious community. *"The Truth About Aids"*, a Jerry Falwell Film, stated that aids was God's judgement on society for embracing what he had condemned. The slow response by the U.S. government is often blamed on Koop's religious influence in government. When Koop finally used the word condom it absolutely infuriated his evangelical supporters. They called Koop the surgeon general of the homosexual lobby. The religious right were as they called it "sold a bill of goods" again.

In 1984 Reverend Jesse Jackson made a strong bid for the Democratic presidential nomination. Running again in 1988, he was the runner-up to the nominee, Michael Dukakis. Jackson called for "economic justice". He won 30 percent of the delegates and many more white votes than in 1984.

On October 1, 1987, Pat Robertson declared his candidacy for the Republican nomination of the presidential election. Two and a half years before the presidential election, Michigan launched its Republican primary. Michigan was seen as very clear Bush territory. But Robertson was assisted by the Freedom Council, an organization he founded in 1981 to bring Christians into politics. His campaign called for a nation under God where the Bible was honored and where children could once again pray in the schools. This movement produced a lot of people in Michigan who felt they were working for God. They went door to door and before too long his advocacy grew. Surprisingly, he gained even more support when he claimed, with the help of God, to move a hurricane out to sea. The hurricane was on a possible track toward the eastern seaboard. He commanded the hurricane in the name of Jesus of Nazareth to stop where it was and move northeast away from land. As many hurricanes do, it took an alternative track and curved out to sea. His irrational followers rallied with support. When the election in Michigan was over Robertson had won. But the Bush camp announced that they had won and the media bought it. With one exception, New Hampshire, Robertson scored either number one or number two in all the northern states. The southern states were seen as Robertson Bible belt territory. These elections soon became reminiscent of religious wars. Bush first con-

centrated on taking out Robertson churches. They targeted 160 southern churches removing Robertson tables from vestibules, suppressing his grass roots movement. And two weeks before the election, Evangelist Jimmy Swaggart suddenly appeared in the news with a prostitute scandal. Robertson claimed this may have been an attack from the Bush campaign. Bush won the south and the Republican nomination.

While closing down his campaign offices, in the same facilities, Robertson started the Christian Coalition. This decision was reinforced by the growing suspicion that the Bush administration did not share their political priorities. And their suspicions were confirmed when Bush invited homosexuals to the White House. He did this for a hate crimes bill and thought it would be hateful and wrong not to invite someone because of their homosexuality. Evangelicals condemned this and in response the Christian Coalition now began to organize and train their soldiers. They were trained how to lobby at the local level and how to work together as one voice.

Bush regained some ground with evangelicals in an episode involving an organization called Operation Rescue. They denied entrance to abortion clinics. In federal court Judge Patrick Kelly ruled that Operation Rescue was acting in an unlawful manner. He said if they continued to deny entrance they would be arrested. After a visit from the Operation Rescue lawyers, the Justice Department argued that Kelly exceeded his authority and abused his power. Kelly said he believed the decision was a political one. He also said he was disgusted by the United States. The Bush administration shifted their priorities in the direction of the religious right. However, this over compensation offended more liberal Bush supporters. And after everything Bush did to win evangelical support, many still did not fully trust him.

After Bush's defeat, some evangelicals decided their agenda was too narrowly confined to social issues such as abortion and homosexuality. They wanted a larger battlefield. And the new war cry was taxes. The Christian Coalition spent more than a hundred thousand dollars on direct mail and radio ads opposing the proposed budget plan. They began to meet with members of congress to lobby them. They were pushing a bill that would cut taxes for families with children.

This new agenda didn't stop their war against religious prohibitions. Since President Clinton took office the anti-abortion movement has intensified. A number of crusaders resorted to the tactics employed by their mid-evil counterparts. Dr. David Gunn was shot by Michael Griffin. A member of Griffin's church said he had offered up a prayer the Sunday before the killing. Operation Rescue condemned acts of violence but defended tactics such as going to the doctor's neighborhoods and putting the doctor's faces on wanted posters. Operation Rescue rejected the thought that their tactics had any effect leading to these murders.

When Bill Clinton announced the military policy involving homosexuals, religious groups went berserk. The Christian Coalition called for a monumental wake-up call for people at the grass roots level to get involved. Colorado for Family Values started with three people in the basement of a church. Through a slanderous video, local churches and Coach Bill McCartney they gained support. In fact, without the support of McCartney the movement would have died. In television appearances he stated that the scriptures condemned homosexuality as an

abomination. He claimed the Bible was the inherent word of God, the truth. Colorado passed an amendment banning communities from passing future laws to protect gays from discrimination. The Christian Coalition sounded a new call to arms battling the spread of homosexuality across the United States. They claimed Bill Clinton, others who tolerated gays and gays themselves were making homosexuality an issue, not them.

When researching history one finds it has always been Christianity, and the religions from which it was derived, who opposed homosexuality. In fact, before the spread of Christianity the majority of the world, including Ancient Rome and Ancient Greece, accepted homosexuality as a natural part of human sexuality. So the Christian Coalition and the religion from which it was derived is responsible for making it an issue. Indeed they have succeeded in convincing entire societies to believe in the fallacy that it is against nature. Such warped religious understandings of issues like abortion and homosexuality have led to murders that collectively are on a mass scale. But like the medieval times of the inquisition the blame often lies not with them but rather with the victim. And the oppression and murders are justified in the name of God.

The relationship between church and state has swung from viewing the church as supreme, with the state subservient to the church, to viewing the state as supreme, with the church purely spiritual. Both scenarios of power have historically yielded disastrous results. They frequently waged war on each other in an effort to obtain supreme power. But when they functioned together they were at their most dangerous. Superstition encouraged attacks against innocent people, and the state carried them out. It should be quite obvious, considering the horrors of the past 2000 years, that these two forces cannot and should not coexist. Remember, doctrine of the church is largely not reality and definitely not an ingredient in the recipe for truth and justice.

In America, church and state controversies have centered on the Constitution, and specifically the First Amendment's "freedom of religion" clause. The body of constitutional law that interprets that clause offers no infallible explanation. Differences and difficulties in interpretation have sparked much of the later debate on the First Amendment. "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof..." For example, the amendment prevents Congress from making any law regarding the "establishment of religion," but this clause has been interpreted either as barring the government from favoring any particular religion or as requiring a complete and total separation of church and state. Moreover, in spite of the apparent prohibition in the amendment's language "Congress shall make no law..." Congress has, in fact, many times passed laws "in the public interest" that restrict freedom of speech and press.

Acquiring approval for such a law regarding religion would prove to be quite difficult. In the United States government is largely elected by the majority vote. Unfortunately the vast majority of voters are superstitious. Therefore, trying to win or keep support, most candidates address issues that don't offend the superstitious voting public. Because of this some very important issues never get addressed and those that do often end in medieval solutions. Trying to appease voters, legislators point to religion as an answer. However, since religion is the

cause of many problems, it can not possibly be the solution. Real solutions are found in reality.