

**First Unitarian Universalist Church of Lubbock**

**Sermons Given by Richard Wilde**

**2002-2009**

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## Preface

Several people have asked me if I would make copies of my talks available to them. Some of these talks were posted on the website of the First Unitarian Universalist Church of Lubbock. With a revamping of the web site, most of these talks have been removed. I therefore decided to make all my talks available in this publication. I have also included the transparencies of presentations I have given at the Sunday Forum.

My Sunday talks were inspired by work I did in writing two books, *The Immortal Self* and *The Many Faces of Jesus*. Some were also inspired by discussions I have led for Adult Religious Education and Intersections. These include a discussion of *The Immortal Self* (9 weeks), *James and Paul in Their Own Words* (8 weeks), *The Gospels* (9 weeks), *The Many Faces of Jesus* (16 weeks), and *Origins of Islam* (3 weeks).

The Forum topics include *Concepts of the Soul* (3 weeks), taken from my book *The Immortal Self*, and *The Origin of Life* (1 week), which outlines a research proposal of mine based on my research into the behavior of molecules in nanopores.

I have had the constant encouragement and advice of my late wife, Sophia Wilde, in all the work included herein.

## The Immortal Self

That which is the finest essence—this whole world has that as its soul.

That is reality. That is *Atman*. That art Thou.

*Shvetashvatara Upanishad* VI.9.4

Several years ago, it is so long ago now that I don't really remember when, I started thinking about DNA and how each of us has a unique genetic code. It occurred to me that statistically there is a finite probability that anyone's genetic code could occur again. In that case, we could reappear at some future date, and we may have lived sometime in the past. Admittedly, the probability of this happening is very small given the millions of base-pair combinations in our 30,000 or so genes. I discussed this possibility with the late Wilse Robinson, who occupied the Welch Chair in chemistry at Texas Tech. It turns out that he had thought along exactly the same lines when he was a professor at Cal Tech in the early 1970s. In fact, he wrote this up as a short note titled "On Infinite Repetition of Life" and posted it outside his door. To his surprise, it showed up in a 1974 Los Angeles Times newspaper article, thus indicating that there is some interest in this topic.

After finishing the writing of a book on statistical mechanics in 1997, I resurrected my ideas about DNA and multiple lives and started to put some of my ideas down on paper, not really knowing where I was headed. I soon realized that our unique selves depend on more than just DNA. If only genes had to be considered, then identical twins would be one and the same person, which they are not. Also, it is very clear that not all the DNA can code for the self. Most of the DNA codes for things like arms, legs, internal organs—things that really have no bearing on our sense of self, since we can lose arms and legs and have organ transplants, but we are still the same unique self. It was clear to me that if there is a physical source of the self, it is in the brain and probably in a special part of the brain, since most brain surgeries do not remove our sense of self.

It is not surprising then that the first chapter of my book is devoted to a discussion of the brain. But I soon realized that if we are to have a complete understanding of the self, we would need more than just a physiological description of the brain. We would have to investigate the basis of neurophysiology, the structure of the neuron, and the effect of various brain lesions on personality and behavior. We would also have to look at the evolutionary history of the human species to determine at what point the species acquired a sense of self. Certainly, most animal species do not have a sense of self, and the hominids did not possess a sense of self when they split off from the chimpanzees some five million years ago—at least that is what the paleontologists tell us.

It was also necessary for me to look at the attempts to explain man's soul by philosophers, theologians, and scientists. I put all this together in a book that I titled *The Immortal Self*. As the title implies, this book is about something we all seek at one time or another, namely, Immortality. Most, but maybe not all, of us would like to be immortal. It's difficult for us to think that, according to Shakespeare, we are but a poor player who struts and frets his hour upon the stage and then is heard no more—tis a tale told by an idiot, full of sound and fury, signifying nothing. Or, according to one of my favorite recording stars, Peggy Lee, in a song we heard here earlier this year, Is That All There Is?

When we talk about immortality, we are really talking about our innermost self or soul. I find that it is much easier to write about the soul than it is to talk about it. That's because each of us has his, or her, own idea about the soul. According to the Catholic Catechism, and I quote, "The Church teaches that every spiritual soul is created immediately by God—it is not 'produced' by the parents—and also that it is immortal: it does not perish when it separates from the body at death, and it will be reunited with the body at the final Resurrection."

René Descartes, the French philosopher and mathematician, believed in a duality of soul and body. That is, the soul or mind is completely separate from the physical world of the body. According to Descartes, the mind interacts with the body through the pineal gland located at the base of the brain. In this case, the soul is immortal in a non-physical mind.

Francis Crick, the Nobel Laureate and co-discoverer of the structure of DNA, has written a book entitled *The Astonishing Hypothesis: The Scientific Search for the Soul*. Crick's hypothesis is that you and your sense of personal identity and free will are no more than the behavior of a vast assembly of nerve cells and their associated molecules. Crick is referred to as a materialist. That is, he believes that there is no duality between mind and body, but that there exists only the body. In Crick's view then, there is no soul to be immortal.

And then finally, we have the quantum philosophers. These are people who believe that the answer to everything is the science of quantum mechanics. Quantum Mechanics—even the term "Quantum Mechanics" strikes fear into the hearts of the non-scientific among us. It is a term that causes the eyes to glaze over in bewilderment. The quantum philosophers invoke what they call the bizarre realm of the quantum in order to explain how the soul arises out of the microscopic workings of the brain. For example, the mathematical physicist Roger Penrose believes that a quantum probability field exists within the neurons of our brains and that the mind arises when quantum oscillations leap between the neurons.

On the other hand, the cosmologist Frank Tipler has advocated a theory based on relativity and quantum mechanics that promises immortality for all of us. Tipler posits that at the end of the universe all matter and energy will be compacted into one tiny point, which he calls the Omega Point. The Omega Point, Tipler says, is God. All the knowledge of the universe will be contained within the Omega Point. And because the Omega Point has infinite love for us, It will resurrect us as virtual images in a cosmic computer. Now that is a truly comforting thought!

Ah, I can see that some eyes are already beginning to glaze over. So, I'll dispense with quantum physics. But, at least you can now begin to understand that it was with some trepidation that I agreed to speak to you today about the soul and its immortality. Because, let's face it, this is pretty heady stuff!

In my book, I seek the self in many places.

- I seek the conscious self or the self of the philosophers.
- I seek the self of the theologians.
- I seek the self of the quantum physicists.
- I seek the self that gives us a sense of time.
- And finally, I seek the materialist self or the self that resides within the brain.

I then try to answer the question: "Is the self transitory or is it immortal?"

Let's now look at each of these selves in turn.

To understand the conscious self, we must understand the history of *Homo sapiens*. From archeological studies, it is believed that symbolic thought may have originated as far back as 60,000 years ago. However, such thoughts were not recorded until the Upper Paleolithic period or Stone Age, a period that lasted from about 35,000 to 10,000 years ago. This period produced the beautiful cave paintings that have been found in France and Spain. With the establishment of agriculture in the Fertile Crescent—roughly the region of Palestine, Syria, and Iraq—about 10,000 years ago, modern *Homo sapiens* established the first major cities. This allowed specialization and gave people time to contemplate more than a hand-to-mouth, hunter-gatherer existence. It brought forth specialization in the trades and produced the first philosophers.

The conscious self is the self of the philosophers. The Greeks dominated early philosophical thinking. Plato, the foremost of the Greek philosophers, believed that the soul can exist outside the body and that the soul contains all knowledge. It is up to us to find this knowledge through reason. For Plato, the soul is immortal. The other extreme was expounded by the Scottish skeptic David Hume. Hume said that when we search inside ourselves for a self or soul that is knowledgeable about the universe, we find nothing. For Hume, there is no self.

A modern philosopher, Daniel Dennett, in his book, *Consciousness Explained*, using the ideas of the biologist Richard Dawkins, suggests that the self arises out of the language and ideas to which we are subjected. This produces information in the mind, which Dennett treats as a manuscript that has multiple drafts, any one of which contains our consciousness. To quote Dennett: "If the self is the Center of Narrative Gravity, and if all the phenomena of human consciousness are explicable as the activities of a virtual machine realized in the astronomically adjustable connections of a human brain, then, in principle, a suitable programmed robot, with a silicon-based computer brain, would be conscious, would have a self. More aptly, there would be a conscious self whose body was the robot and whose brain was the computer." In this case, the self is like a computer program and can be downloaded to survive the death of the body.

Obviously, there is no consensus among the philosophers. But those of you who have studied philosophy know that there is never consensus among philosophers. That is not the way philosophers work!

What I call the "religious self" is the way the soul is envisioned in the great religious books of civilization—the Torah, the Bible, the Koran, and the Veda. The western religions believe in non-dualism. That is, the soul and the body are inexorably linked so that both are necessary if the soul is to function. According to Richard Swinburne, Professor of Philosophy of the Christian Religion at Oxford University in England, the soul can be likened to a light bulb and the brain to an electrical socket. At the resurrection, the soul can function again by being plugged into a brain. Any brain will do, since it is the soul that retains the body's memories. Some beliefs, such as in IV Ezra of the Apocrypha, have the soul resting peacefully in vaults guarded by angels until the final resurrection, when the soul will be reunited with the body.

In the Hindu religion, the essence of the universe is an unchanging reality called Brahman. The ultimate essential self is called Atman, which is likened to the soul. In the Hindu religion, as we discovered earlier this year in our RE class, we are forced to repeat the birth-death process over and over until finally we attain *moksha* or enlightenment,

which frees us from the birth-death process, called *samsara*. The final enlightenment will give us the realization that Atman is Brahman. Atman is our true self. In this sense, the self is immortal because it is part of Brahman—part of the universe.

Buddhism, on the other hand, rejects the existence of the self. It blames the existence of suffering on the illusion that we have a self. There is no Atman, but rather there is anatman, or no self. The Buddhist spends his life trying to get rid of his self.

The hardest self to pin down is that of the quantum physicists and philosophers. This is because the self is hidden in metaphysics. The term “metaphysics” means “beyond physics.” Because it is beyond physics, it is impossible to do any experiment that will prove or disprove the hypotheses made. Unlike religious beliefs that rely on faith, metaphysics is based on physical science, but the claims made are impossible to verify. It is probably for this very reason that the field has drawn so many practitioners. Anyone who knows a little physics and has an advanced degree can propose outrageous theories, because the common layperson cannot easily refute the claims made. I discuss several of these theories in my book, but they all require a leap of faith if an immortal self is to emerge.

We each feel that somehow we are unique, that there exists within each and every one of us a unique person—a unique self if you will. This feeling has given rise to the concept of soul. This feeling has given rise to the world’s great religions, especially Christianity and Islam. For these religions, the soul is not of the physical world, but it is in the world of the mind and belongs to God—and more importantly, it is immortal. This may well be, but there is no way to scientifically test this hypothesis—it must be accepted totally on faith.

I have taken the opposite view and looked for the soul in the physical world—specifically, in the brain. If it can be found, we will have answered one of humankind’s deepest questions, but we will have also introduced deeper questions concerning immortality. There were then two major questions that confronted me when I began writing. One is where in the brain does the soul reside and can it be found experimentally? The other concerns immortality. If there is a unique part of the brain that contains the sense of self, has it occurred before and can it occur again?

To address the first question, where does the soul reside, I looked at psychological studies that have been done to detect those traits that are especially human and that reflect our sense of self such as selfishness, itself, and mirror recognition—to take two examples. I then looked into non-invasive imaging methods as a means of determining which parts of the brain are receptive to these psychological studies. It turns out that there are several methods that have been developed recently, such as computer assisted tomography or CAT scans, positron emission tomography, and magnetic resonance imaging or MRI scans. I personally favor MRI scans for reasons discussed in my book, but which I cannot go into here. In these imaging methods, the brain scans that show up on the computer screen literally light up when that part of the brain becomes active. Thus, I maintain that, by doing imaging studies in conjunction with appropriate psychological testing, the hypothesis of a localized soul can be either proven or disproven.

It is really difficult to answer the immortality question. Even if we should find that the self is localized in the brain, we do not know how many neuronal connections there are that contribute to the sense of self. Perhaps sometime in this century the neuronal connections in the brain will be mapped out, but this is a problem that is very much

greater than that of getting the human genome. Nevertheless, the number of connections is finite, and this very fact lends itself to a statistical analysis. In fact, it turns out that by comparing the brain to a neural network, or computer if you like, it is possible that another identical neural network could occur at some other space-time point in the universe, perhaps occurring over and over millions of times, depending on the type of universe we inhabit. I discuss this in some detail in my book. However, this is not the place to go into such detail. Besides, if I told you everything today, you wouldn't have to buy the book!

In conclusion then, what I found in my own search for the self is very close to the *samsara* of the Hindu religion. We move from life to life, but the question then becomes, "What is the purpose of multiple lives?" I make a feeble attempt to answer this question in my Epilogue, which I now quote.

"It is my feeling that the creation and destruction of solar systems, galaxies, and even perhaps entire universes may be Nature's way of trying to *get it right*. Such a concept was illustrated very well in the movie "Groundhog Day," where the protagonist, a TV reporter from the big city, goes to a small town to report on Groundhog Day. The reporter has no respect for the small town's tradition or for the virtues of small town life. He is doomed to repeat his day in the town until he gets it right. *Right* means developing respect for others and for their values and beliefs. It is seeing the other person's point of view. Only then is the reporter able to break the cycle of repeated Groundhog Days.

"The same viewpoint is present in Hindu beliefs, where one is doomed to repeat *samsara* until he gets it right and attains *moksha* as an end to suffering. This viewpoint is in accord with the teachings of Jesus, who preached the Sermon on the Mount as a way to end suffering. Likewise, the Buddha taught that nirvana could be reached only through the loss of self. The teachings of both Jesus and Buddha are much the same in that they stress the ascendance to heaven to be as one with God or Nature by elimination of our human trait of selfishness, which characterizes the self. How can we eliminate this human trait? We eliminate it by repeating the evolution of Man over and over in countless galaxies and universes until we get it right. That is, until we learn to overcome our selfishness, to respect each other, and to work together so that all our selves work as one to understand Nature—to understand who we are and what our purpose is. This understanding is Jesus' kingdom of heaven and the Buddha's nirvana."

Finally, I would like to leave you with some food for thought. I think that most people agree that we are in the midst of a technology revolution, something like the Industrial Revolution of the 19<sup>th</sup> century. Like all revolutions, this one has brought social upheavals. The upheavals of the Technology Revolution are characterized by

- A widening gulf between the Haves and the Have-nots, both domestically and globally.
- Corporate greed, which was talked about here recently. This has been illustrated very nicely by Enron and locally by NTS.
- Increased job insecurity as corporations indiscriminately lay off workers to improve the bottom line and move jobs to underdeveloped countries in order to exploit cheap labor.
- And last, but not least, terrorism I believe is one of the spin-offs of the current Revolution.

Could it be that revolutionary upheavals are driven by our sense of self, by selfishness? After all, Charles Darwin identified selfishness as one of the traits that characterizes the human species. Could it be, as I wrote in my Epilogue, that social upheavals will continue until our sense of self turns from greed to altruism?

And on that note I'll end and invite questions and/or comments.

## The Historical Jesus

What credible witness beheld this appearance? Who heard a voice from heaven declaring you to be the Son of God? What proof is there save your own assertion?

Origen, *Contra Celsum*, 1:41

As a young boy, I was first exposed to the Christian Church, or more accurately the Disciples of Christ, the church of my mother and grandmother. I naturally believed the tale of the Gospels—Jesus was born in Bethlehem, grew up in Nazareth, began his ministry after baptism by John the Baptist, cast the money changers out of the Temple, was betrayed by Judas Iscariot, was tried before Pontius Pilate, was crucified and buried, and then arose after three days. This is essentially the kerygma of Saint Paul.

I didn't begin to think seriously about the historicity of Jesus until the 1960s. I remember talking with Dan Higgins, the first minister of this congregation, and asking him if it was possible that Jesus never existed. Dan Higgins assured me that the existence of Jesus was not in doubt. Whether or not Jesus was a god might be in doubt, but not his existence. Since Higgins was a well-educated Unitarian, I figured that he was probably right. My ideas about Jesus then centered on someone who had lived during the early first century, had perhaps been a young and charismatic firebrand, and had gotten himself killed for his beliefs, either by the Jews or by the Romans.

While writing a chapter on religion for my book, *The Immortal Self*, I again became interested in the historical Jesus, and I searched out books that questioned the orthodoxy of the Christian apologists. I also read Flavius Josephus, the Jewish Roman historian, who is one of the most trusted historians in the period before the destruction of the Jerusalem Temple in 70 A.D. I studied the mystery cults of the biblical period, including the cults of Dionysus, Osiris, and Mithras. I also looked into the Greek and Jewish mystery philosophers such as Pythagoras and Philo.

There have been hundreds, if not thousands, of treatises written about Jesus. These differ from one another in their interpretation of the scriptures, and the scriptures themselves differ from each other in their translations from the Greek and of the Greek from the Hebrew or Arabic. The debates about interpretation will continue into the foreseeable future or until new archeological finds settle the matter one way or the other. Until then, biblical scholars will be quibbling over translations and interpretations.

I decided to look at all the evidence in order to reconstruct the historical Jesus. This is a very difficult task, because there is precious little evidence available. The earliest extant literature that we have is the epistles of Paul. Next, we have the Gospels. It is generally conceded by biblical scholars that the Gospels were written after the destruction of the Jerusalem Temple in 70 AD. Since Jesus was supposedly crucified about 30 AD, over a generation passed before the first gospel, *The Gospel According to Mark*, was written. The last gospel to be written, *The Gospel According to John*, was probably written early in the second century AD—close to three generations after the crucifixion of Jesus.

There are other sources available to the biblical scholar. These are (1) the Letter of James, (2) the Dead Sea Scrolls, and (3) the Q gospel. Important non-biblical historical sources are the books, *Antiquities of the Jews* and *Wars of the Jews*, by Flavius Josephus, the Roman historian.

As a historical source of information, not much attention has been paid to the *Letter of James* in the New Testament. The German Christian scholar Carsten Thiede cites recent interpretations that consider the *Letter of James* to be an early document, written before the destruction of the Temple and written perhaps by James, himself. Biblical scholars find the *Letter of James* very difficult to fit into the Jesus timeline. I believe that the *Letter of James* is an early letter, perhaps written before the year 34 AD, the year when Saint Paul joined the Christ cult. If this dating is correct, this letter can give us valuable insight into the early Jesus movement. It refers to the “Lord Jesus Christ” twice, but there is no mention of a historical Jesus. There is no mention of Saint Paul or Paul’s claim that Christ lived, was crucified, and then resurrected for our sins, a claim referred to as Paul’s kerygma. The letter makes abundant use of the Jewish Wisdom literature as it is written in *Psalms* and *Proverbs* of the Old Testament and in the *Wisdom of Solomon* of the Apocrypha. This is a letter that one would expect a leader of the early Jewish Christ cult to write to the churches of the Jewish Diaspora and, indeed, it is directed “to the twelve tribes of the dispersion.”

Especially interesting for me are those parts of the letter that speak of war and peace. Those of you who have your Bibles handy may want to follow along with me as I read *James*, Chapter 3, verses 17 and 18: “But the wisdom from above is first pure, then peaceable, gentle, open to reason, full of mercy and good fruits without uncertainty of insincerity. And the harvest of righteousness is sown in peace by those who make peace.” Here, James is making a plea for peace. The letter continues with *James*, Chapter 4, verses 1 and 2: “What causes wars, and what causes fightings among you? Is it not your passions that are at war in your members? You desire and do not have; so you kill. And you covet and cannot obtain; so you fight and wage war.” Finally, in commenting on the rich Jews, we quote *James*, Chapter 5, verses 5 and 6: “You have lived on the earth in luxury and in pleasure; you have fattened your hearts in a day of slaughter. You have condemned, you have killed the righteous man; he does not resist you.”

You may now close your Bibles.

Why is this interesting? Well, it’s interesting because it gives us an insight into the times when it was written. It was obviously a time of conflict and turmoil in the Jewish state. It tells us that the members of the cult were actually fighting one another, pitting brother against brother. This is not the time when Jews were fighting Romans as in the Jewish-Roman war of AD 66 to 70. No, this is an earlier time. This describes the political unrest during the administration of Pontius Pilate, as reported by Josephus. Loyalties were continually shifting as the Jewish War and Peace parties jockeyed for the allegiances of the Jews. This was a time when numerous Jewish sects existed. Sects such as the Hasidim, the Zealots and their violent associates, the Sicarii, of the War party were pitted against sects such as the Essenes and the Nazarites of the Peace party. The War party consisted of the Anti-Hellenizers and those who opposed Roman collaboration. Under their cloaks, the violent Sicarii carried knives, which they would use to dispatch Roman soldiers and Roman sympathizers. These were truly the world’s first terrorists. At the other extreme were the Hellenizers, mainly wealthy Jews who liked the Greek way of life, who liked Greek philosophy, and who supported the Romans. The Roman army learned to attack the Anti-Hellenizers on the Sabbath, since the most pious of the Jews, especially the Hasidim refused to take up arms on the Sabbath. Many of these pious Jews allowed themselves to be slaughtered rather than to fight. I suspect that this was what

James was referring to when he said to the wealthy, “you have killed the righteous man; he does not resist you.”

I believe that the struggle between the Jewish sects in the first century AD was a driving force for what is known as the *Jesus movement*. Some Christian scholars have described the community at Qumran, where the Dead Sea Scrolls were found, as an early Christian community. There is no evidence to support this claim. However, the people of Qumran can give us clues as to the nature of the earliest Jesus movement.

The legend of the Dead Sea Scrolls goes back to 1947 and to a Bedouin shepherd boy who was searching for a lost goat. The boy accidentally stumbled upon a cave containing large pottery jars, in which were found at least seven nearly complete scrolls. It is not clear what happened next. One story has the boy taking the scrolls home, where his mother used some of them as kindling for the fireplace. The scrolls eventually showed up in the antiquities market of Bethlehem. Beginning in 1949, archeologists found the cave where the scrolls had been kept. Between 1949 and 1956 a total of eleven caves were found, some containing complete scrolls and others containing only fragments. The job of cleaning, assembling the thousands of fragments, and then translating them from Hebrew was a monumental task carried out by a small, select group of scholars. The scrolls finally became public in 1991 when microfilm copies were made available by the Huntington Library of San Marino, California.

Archeology at the Qumran site reveals that the site was last occupied from about 150 BC to the fall of the Temple in 70 AD. Analysis of the scrolls shows that the people of Qumran were an ultra orthodox Jewish sect that broke its ties with the Jerusalem establishment during the Hasmonean dynasty in the last half of the second century BC. Sects closely associated with the Qumran people were the Essenes and the Nazarites. Indeed, some scholars believe that the Qumran community was an Essene community and that John the Baptist was an Essene. It is generally agreed that there is no evidence that the sect was Christian.

What distinguishes the Qumran community is its desire to leave the Jerusalem establishment, with its feuding sects, and to set up a separate community based on peace and worship. This is the path that other groups were taking and may have been the path taken by the Jesus movement.

The last bit of evidence we have concerning the early Jesus movement is the so-called Q gospel.

While studying the Gospels of the New Testament and trying to decide the historical order in which they were written, German scholars noticed that *Matthew* and *Luke* contained many sayings of Jesus that were not in *Mark*, even though it was apparent that *Mark* preceded *Matthew* and *Luke*. Furthermore, many of the sayings in *Matthew* and *Luke* were similar, if not identical. It became apparent to some scholars that the scribes of *Matthew* and *Luke* must have had in front of them a written document of Jesus' sayings. This document, which is no longer in existence, was considered the source of the Gospel sayings of Jesus and was labeled *Quelle*, which means “source” in German. This source is commonly referred to as the Q gospel. Burton Mack, in his book *The Lost Gospel*, points out that John Kloppenborg, who published his book *Q Parallels* in 1988, noted three layers of Q sayings. According to Mack, the first layer, identified as Q<sup>1</sup>, contains instructions or aphorisms in the style of the Greek Cynics. The second layer or Q<sup>2</sup> contains dialogue, parables, narratives, and apocalyptic pronouncements. Finally, the

third layer or Q<sup>3</sup> contains the temptation of Jesus, prophetic messages to the people of Jerusalem concerning the War of 70 AD, and messages of instruction.

Mack dates the earliest layer, Q<sup>1</sup>, to the 40s AD. Q<sup>2</sup> and Q<sup>3</sup> he dates to about 70 and 85 AD, respectively. Since Paul's letters have been dated to the 50s AD, it is obvious that Q<sup>1</sup> predates the Pauline letters. It is significant that in Q<sup>1</sup> there is no mention of a resurrected Christ. There are no sources for Jesus before the earliest Q sayings. Therefore, we must begin our quest for the historical Jesus with Q<sup>1</sup>.

Because the evidence for the historical Jesus is so meager, it is necessary to make some assumptions if any progress is to be made in the search for the historical Jesus. I have made three basic assumptions. First, I assume that the Jesus movement began with one person or one group of people and that the movement did not simultaneously emerge at several different locations. Second, I assume that there was a social or political reason for the formation of the Jesus movement. Movements do not just spontaneously appear for no reason. Third, I assume that several years elapsed between the first sayings of the Jesus group and the writing of these sayings as the Q document. This is because a movement must be established and its views widely disseminated before there is felt to be a need to put the movement's ideas into writing.

In order to give enough time for the formation of the Jesus movement, the writing of the Q gospel, and the formation and dissemination of the Christ cult, I put the origin of the Jesus movement in the first decade AD. According to Josephus, between 3 and 7 AD there was civil war among the Jews, as local warlords seized power after the death of Herod the Great. In 7 AD, the Roman procurator of Palestine imposed a harsh tax that was especially onerous to the Galileans. Previously, the Galileans had prospered under the Hellenization of Herod Antipas, who was the son of Herod the Great. But with the imposition of the tax, a rebellion broke out in Galilee led by the Zealots. The Zealots were an extreme Jewish religious group that had formed under the reign of Herod the Great. An offshoot of the Zealots was the Sicarii, an especially vicious group that would as soon kill you as look at you if you were Roman or a Roman sympathizer. It was at this time that the War and Peace parties formed.

I speculate that some of the Peace party, who were sick and tired of war, perhaps Nazarites, began to openly oppose the war and the killing. This would have been especially true of the women who stood to lose sons and husbands to the war. It would have taken great courage to oppose the Zealots and the Sicarii. Women would have been more successful in opposition to the war, since it was not the position of the Zealots and Sicarii to murder Jewish women. Hellenized Jewish women would have been less hesitant to take a social stand than the orthodox Jewish women. Also, it is well known from Paul's letters that women were instrumental in holding the early Christ cults together. To be effective as a social opposition to the War party, the members of the peace movement would have looked to the Greco-Roman world, where social opposition was best expressed by the Cynics.

The reason that the Cynics are important in understanding the early Jesus movement is that many of the earliest sayings of Jesus from the Q gospel are cynical in nature. The Cynics were an early Greek movement of the fourth century BC. One of the most famous cynics was Diogenes. According to a popular story, Diogenes walked through Athens in broad daylight carrying a lighted lamp, saying that he was looking for an honest man. On another occasion, Diogenes is said to have had an interview with Alexander the Great,

who opened the conversation with "I am Alexander the Great." The philosopher, who was basking in the sun, answered, "And I am Diogenes the Cynic." Alexander then asked him in what way he could serve him. "You can step out of my sunlight," Diogenes replied. Another time, Diogenes was asking alms of a bad-tempered man, who said, "Yes, if you can persuade me." "If I could have persuaded you," said Diogenes, "I would have persuaded you to hang yourself." It is questionable whether Diogenes actually made these remarks, but the point is that they represent the attitude of the Cynic in Greek and Roman times. The Cynic would often turn a question back on his questioner and completely demolish his opponent's point with ridicule and repartee. The goal of the Cynic was to change the ideas and mores of society. Such discourse is attributed to Jesus in the Q gospel and is extensively uttered by Jesus in the synoptic gospels. Thus, in *Mark*, Chapter 2, verses 18 through 22, the multitudes following Jesus observed that the Pharisees and the disciples of John the Baptist were fasting, but Jesus' disciples were not fasting. The people asked about this, and Jesus said, "Can the wedding guests fast while the bridegroom is with them? As long as they have the bridegroom with them they cannot fast. The days will come, when the bridegroom is taken away from them, and then they will fast in that day. No one sews a piece of unshrunk cloth on an old garment; if he does, the patch tears away from it, the new from the old, and a worse tear is made. And no one puts new wine into old wineskins; if he does, the wine will burst the skins, and the wine is lost, and so are the skins; but new wine is for fresh skins." These are Cynic-like sayings that turn the question back on the questioner.

Cynic-like sayings would have been the first method of social opposition to the war. As the opposition increased, both men and women would have become involved. However, these people would have had to form their own religious community, separate from the traditional sects of the time. Only in this way, could they oppose the war but still not directly oppose those sects that favored war, since their religious sect could claim immunity from retribution by virtue of their religious beliefs, much as the Quakers today claim immunity from military service based on their religion. In ancient times and indeed up to the present, one's safety depended on one's allegiance to a tribe, clan, or religious group. This is clearly evident in the Middle East today. Only by working within the group can one be safe from one's enemies. The formation of a new religious, social, and political group was therefore a necessity if any peace movement was to be effective. It is my contention that the original Jesus movement formed in this way as a peace movement, not as a religious movement.

Some of the Cynic-like sayings of the peace movement that we get from the Q gospels are beatitudes such as: Blessed are the meek, for they shall inherit the earth. Blessed are the peacemakers for they shall be called sons of God.

Other Cynic-like sayings are:

But I say to you that hear, love your enemies, do good to those who hate you, bless those who curse you, pray for those who abuse you.

To him who strikes you on the cheek, offer the other also; and from him who takes away your cloak do not withhold your coat as well.

Sometime after the formation of a loose confederation of peace activists, probably around 10 AD, a charismatic leader would have had to emerge to hold the movement together. This leader would have been referred to as a teacher. It is known from Josephus that many members of the peace movement began to move over to the side of the Zealots

in the second decade AD. This would have been a stressful time for the peace movement, and there would have been a necessity to write down the sayings of the movement and attribute these sayings to the teacher in order to help hold the movement together.

The early Q sayings do not identify a teacher, but it is known from studies of the schools of Greek rhetoric that written sayings were always attributed to a teacher. Those who used the sayings of the movement could then identify with the teacher of the movement. This was true of the schools of Aristotle, Pythagoras, and Diogenes, for example. I suspect that it was true of the peace movement as well. The movement would have taken on the teacher's name. In the later Q gospels, this teacher is identified as Jesus. This makes the peace movement into a Jesus movement. However, the Christ cult never identifies with a historical Jesus, leading one to believe that the teacher of the Jesus movement left the movement before the formation of the Christ cult. We do not even know the sex of the teacher. Greek tradition is filled with women who have played major roles in Greek life as well as in Greek myth. Indeed, one of the Hasmonean leaders was a woman, Salome Alexandra, queen of Judea. Therefore, I believe that there is at least a 50/50 chance that the historical Jesus was a woman.

This picture of the historical Jesus is pure speculation. However, it is speculation based on what we know of the Q gospel and what we know of the social and political situation in the early first century AD. And it is certainly no more speculative than the Gospels, which were written at least two generations after the fact and which do not purport to be historical truth. According to the *Acts of the Apostles* of the New Testament, within a very short time the disciples of Jesus had converted multitudes of people to Christianity throughout Palestine and Asia Minor. According to *Acts*, the high priests in Jerusalem had even sent Paul to exterminate the Christians, probably not more than two or three years after the crucifixion of Jesus. This is an unbelievably short time for a minor sect to have spread so far, even with dedicated apostles, and the historical facts just do not support it.

It is more reasonable that the Christ cult began sometime late in the second decade as an offshoot of the Jesus movement. Biblical scholars such as George Wells of the University of London, Robert Price, a professor of biblical criticism and a member of the Jesus Seminar, and Burton Mack, a professor of early Christianity in the Claremont School of Theology, believe that both the Christ of Paul and the Jesus of the Gospels are myths. It is believed that the Christ cult grew out of the Jewish and Greek mystery religions, based on a resurrected godman. Since the historical Jesus had vanished, his or her place was taken by a godman, who had lived in the distant past. After the destruction of the Temple in 70 AD, this godman—the Christ of Paul—became the Jesus of the Gospels.

In fact, there have been many Jesuses. Besides the Christ of Paul and the Jesus of the Gospels, there is the Gnostic Jesus, the Jesus of the Roman Catholic Church, the Jesus of the Protestant Reformation, the Jesus of the Puritans, the Jesus of the Evangelicals, and the list goes on and on. There is not time to discuss the many faces of Jesus. I have here concentrated on just the one face of Jesus—the historical Jesus. But it is amazing that all these Jesuses derive from the same source—the “Good Book.”

In conclusion, the story I have presented today has the peace movement beginning in the first decade of the Common Era. The Jesus movement begins in the second decade. The Christ cult begins in the third decade and lasts through the Jewish-Roman war of the

seventh decade. The Gospels are written in the eighth, ninth, and tenth decades, and the beginning of the second century. The historical Jesus, if there is one, has to be the charismatic teacher of the early peace movement—a teacher whose identity has been lost to history.

I welcome questions and/or comments.

## The Ten Commandments

And now, O Israel, give heed to the statutes and the ordinances which I teach you, and do them; that you may live, and go in and take possession of the land which the Lord, the God of your fathers, gives you.  
Deuteronomy 4:1

There has been considerable public debate about the suitability of displaying the Ten Commandments in public buildings and on public property. In particular, some conservative groups want to display the Ten Commandments in courthouses. The argument is that our country was founded under the Christian God and that our legal system is based on the Judeo-Christian tradition of the Ten Commandments. I do not wish to get involved here in the debate concerning the displaying of the Ten Commandments. What I do want to do is to look at the history of the Ten Commandments and at what they actually say.

The Ten Commandments, also known as the Decalogue, are listed in what we call the “Old Testament.” The Old Testament is derived from the Greek Septuagint, and the Septuagint in turn was derived from the Hebrew Scriptures. The first five books of the Hebrew Scriptures are known as the Torah. It is in the Torah that God’s commandments and laws are given. Tradition says that the Torah was written by Moses. However, the Hebrew language dates to the twelfth century BC at the earliest, and the Phoenician alphabet was not in use before the eleventh century BC. Therefore, it is doubtful that Moses, who dates to the late thirteenth century BC, wrote anything, let alone the Torah. It is believed by scholars that the first history of the Jewish people was written in the ninth and eighth centuries BC, after the time of King David. To see how Moses got into the act, it is necessary to briefly look at the ancient history of the Jews as revealed in the Torah.

The Jewish religion begins with Abraham, who was born in the Mesopotamian city of Ur about 1450 BC according to the best chronology obtained by working backwards from Abraham’s descendant Moses, who lived during the reign of Ramses II. Ramses II was the ruler of the 19<sup>th</sup> Egyptian Dynasty and ruled from 1290 to 1224 BC.

God made a covenant with Moses to the effect that, if the Israelites kept the laws of God, then God would destroy the enemies of the Israelites. However, this is not the first covenant that God made with the Israelites. In the *Book of Genesis* God makes an everlasting covenant with Abraham and his descendants to the effect that, if Abraham has every male in his household circumcised, then God will make Abraham exceedingly fruitful. Now Abraham was ninety-nine years of age at the time. For Abraham, this was like getting a lifetime’s worth of Viagra. The covenant required that all of Abraham’s descendants be circumcised, and those descendants who were not circumcised were to be cut off from the people of Israel. Abraham lived to be 175 years old. After the death of his first wife Sarah, Abraham took a second wife, with whom he had six children. His concubines bore him many more children.

Legend has it that Abraham was born in the city of Ur in Mesopotamia. If so, he would have been exposed to the legal tradition of Mesopotamia—a tradition referred to as the Code of Hammurabi. This was not the first legal code, but it was a legal code that survived two millennia and influenced those legal codes that followed it. The code is to be found on a black basalt slab or stele in the Louvre in Paris. The stele shows the sun

god Shamash giving the code to Hammurabi, the king of Babylonia, in the eighteenth century BC. The code contains 282 ordinances relating to commerce and bodily injury. Many of the precepts of Hammurabi's code were so well received that they formed the legal basis for many of the civilizations that followed. This included the Kingdom of Israel. It is no surprise then that many of the laws handed down by God to the Israelites contain features similar to the Code of Hammurabi.

According to the *Book of Exodus*, after leading the people of Israel out of Egypt, Moses had them camp at the foot of Mt. Sinai on the Sinai peninsula. God called Moses up onto the mountain and spoke to him, giving him the Ten Commandments. However, the giving of the Ten Commandments did not come easily for Moses, as we shall see later. Besides the Ten Commandments, God gave to Moses God's ordinances. I quote some of these ordinances:

- When a man sells his daughter as a slave, she shall not go out as the male slaves do. If she does not please her master, who has designated her for himself, then he shall let her be redeemed.
- Whoever curses his father or his mother shall be put to death.
- When a man strikes his slave, male or female, with a rod and the slave dies under his hand, he shall be punished. But if the slave survives a day or two, he is not to be punished; for the slave is his money.
- When a man strikes the eye of his slave, male or female, and destroys it, he shall let the slave go free for the eye's sake.
- When an ox gores a man or a woman to death, the ox shall be stoned...But if the ox has been accustomed to gore in the past, and its owner has been warned but has not kept it in, and it kills a man or a woman, the ox shall be stoned, and its owner also shall be put to death.
- You shall not permit a sorceress to live.
- Whoever sacrifices to any god, save to the Lord only, shall be utterly destroyed.
- You shall not delay to offer from the fullness of your harvest and from the outflow of your presses. The first-born of your sons you shall give to me. You shall do likewise with your oxen and with your sheep: seven days it shall be with its dam; on the eighth day you shall give it to me.

These are the ordinances that God gave to Moses along with the Ten Commandments. After Moses wrote all of this down, God called him back to Mt. Sinai in order to give Moses the Ten Commandments written in stone by God, himself. This required that Moses stay on the mountain for forty days and forty nights, during which time God gave Moses the directions for building the Ark of the Covenant, building the tabernacle, and for taking a census for the purpose of making an offering to the Lord. Moses came down from the mountain with two tablets, written on both sides, containing the Commandments. When Moses entered the camp of the Israelites, he heard singing and saw dancing around a golden calf. Moses immediately broke the tablets and the golden calf. God then called Moses onto the mountain a second time, telling him to cut and bring with him two tablets of stone. Again, Moses was on the mountain for forty days and forty nights, without food or water, writing all that God told him. This time, when he came down from the mountain, Moses did *not* break the tablets.

Because the Commandments and the ordinances are the laws of God, all are to be obeyed. Some among us are eager to display the Commandments, with the implication

that the Commandments should all be obeyed. How many of the ordinances do we actually obey? How many of the Ten Commandments do we obey? What about the following commandments, numbers two and four?

- You shall not make yourself a graven image, or any likeness of anything that is in heaven above, or that is in the earth beneath, or that is in the water under the earth; you shall not bow down to them or serve them; for I the Lord your god am a jealous God, visiting the iniquity of the fathers upon the children to the third and fourth generation of those who hate me.
- Remember the Sabbath day, to keep it holy. Six days you shall labor, and do all your work; but the seventh day is a Sabbath to the Lord your God; in it you shall not do any work, you or your son, or your daughter, your manservant, or your maidservant, or your cattle, or the sojourner who is within your gates; for in six days the Lord made heaven and earth, the sea, and all that is in them, and rested the seventh day; therefore the Lord blessed the Sabbath day and hallowed it.

The Muslims took the second commandment quite literally and to this day their art work is purely geometrical. Do the works of art in the Christian churches violate this commandment? It is unclear exactly what this commandment refers to, and it is open to interpretation. Certainly, punishing the children for the sins of the fathers is not normally adhered to. The same thing can be said of the fourth commandment about honoring the Sabbath. A strict interpretation of this commandment puts all Christian churches, except the Seventh Day Adventists, in violation.

It seems to me that many of the Commandments and ordinances are routinely violated every day by both liberal and conservative religious groups. Even putting a replica of the Ten Commandments in the courthouse violates the second commandment. If so, do we really want to display these in our courthouses? Even many of the Commandments, such as “You shall not kill” and “You shall not steal,” which are considered common sense rules, are vague and can be interpreted many ways. For example, what exactly is meant by “You shall not kill?” We have just seen that many of God’s ordinances require that children who curse their parents, sorceresses, as well as negligent ox owners be put to death. Many fundamentalist religious groups favor the death penalty.

The prohibition against stealing leads to many interpretations. Some scholars claim that this commandment refers to kidnapping and selling into slavery. Others claim that it refers to the taking of any property.

Many of the ordinances are woefully out of date. It is not even clear to me that these Commandments and ordinances form the basis of our Constitution or our laws. Greek, Roman, and English legal codes may have had more to do with our Constitution than the Ten Commandments. It may be more appropriate to display the Magna Carta than the Ten Commandments. It appears that the desire to display the Commandments is more a desire to promote the Judeo-Christian tradition than it is to show the origins of our legal system.

What happens to those who do not obey the laws? According to the *Book of Deuteronomy*, Moses tells us that if anyone transgresses the covenant, that person shall be stoned to death. Of course, this violates the sixth commandment.

What does Moses tell us about war? How should we treat those whom we oppose? According to *Deuteronomy*, “When you draw near to a city to fight against it, offer terms of peace to it. And if its answer to you is peace and it opens to you, then all the people

who are found in it shall do forced labor for you and shall serve you. But if it makes no peace with you, but makes war against you, then you shall besiege it; and when the Lord your God gives it into your hand you shall put all its males to the sword, but the women and the little ones, the cattle, and everything else in the city, all its spoil, you shall take as booty for yourselves; and you shall enjoy the spoil of your enemies, which the Lord your God has given you.” So saith the Lord.

This has interesting connotations for the present situation in Iraq. If we are to follow the words of our Lord, we should be executing all Iraqi males and taking as slaves the women and children. Otherwise, we are disobeying the laws of God. It seems to me that the fundamentalists cannot pick and choose the laws they wish to follow. A display of the Ten Commandments on public property and the inclusion of God in the public classroom is a commitment to follow and obey *all* of God’s laws.

The Commandments that I have been quoting are those from the *Book of Exodus*. There is a slightly different set of Commandments in the *Book of Deuteronomy*. To make the situation still more confusing, the Protestant, Catholic, and Hebrew Commandments all differ. The first commandment in *Exodus*, “I am the Lord your God, who brought you out of the land of Egypt,” is not even listed as one of the Ten Commandments in the Christian version, but it is in the Hebrew Scriptures.

Biblical Fathers, themselves, differ on the order and meaning of the Commandments. Thus Philo, an Alexandrian Jewish philosopher of the first century AD, and Josephus, the Jewish Roman historian of the first century, used the listing in *Exodus*. Saint Augustine, Bishop of Hippo, who lived in the late fourth and early fifth centuries AD, used the Commandments in *Deuteronomy*, and these have been adopted by the Catholic Church. One of the earliest and most revered of the apostles, Saint Paul, in *II Corinthians* writes to the Corinthians, “You yourselves are our letter of recommendation, written on your hearts, to be known and read by all men; and you show that you are a letter from Christ delivered by us, written not with ink but with the Spirit of the living God, not on tablets of stone but on tablets of human hearts...our sufficiency is from God, who has qualified us to be ministers of a new covenant, not in a written code but in the Spirit; for the written code kills, but the Spirit gives life.

“Now if the dispensation of death, carved in letter on stone, came with such splendor that the Israelites could not look at Moses’ face because of its brightness, fading as this was, why should not the dispensation of the Spirit be attended with greater splendor?”

Paul is saying essentially that the Commandments written in stone should be superseded by a new covenant, by those commandments written in our hearts. I doubt that Paul would have appreciated the displaying of the Ten Commandments. Irenaeus, a second-century Church father, likewise said in his monumental work, *Against the Heresies*, that the Ten Commandments should be superseded by the laws of Christ.

Recently, there have been several attempts to legislate the posting of the Ten Commandments. In 1998 Senator Jeff Sessions, (R-AL), introduced a non-binding resolution that called for the Ten Commandments to be displayed in government buildings. It was adopted unanimously. It states, in part: “The Ten Commandments set forth a code of moral conduct, observance of which is acknowledged to promote respect for our system of laws and the good of society.” Also, in 1998, Rep. Robert Aderholt (R-AL) introduced the “Ten Commandments Defense Act” that would make government displays of Christian religious beliefs constitutional. It states in part that “the power to

display the Ten Commandments on or within property owned or administered by the several States or political subdivisions thereof is hereby declared to be among the powers reserved to the States.” There have been more recent attempts to legalize the display of the Ten Commandments on public property. These can be found on the Internet at [ReligiousTolerance.org](http://ReligiousTolerance.org).

William Rehnquist, chief justice of the Supreme Court, along with Justices Scalia and Thomas, said that any monument involving the Ten Commandments simply reflects the role of the Commandments in the development of our legal system and is not a promotion of religious faith. These justices would like to hear cases involving the constitutionality of a display of the Ten Commandments, but, so far, all such cases have been turned down.

In conclusion, like so much in the Christian Bible, the Ten Commandments are open to interpretation. It is even difficult to make a case for the Ten Commandments being a basis of either our Constitution or our legal system. That is not to say that the Ten Commandments are not good guidelines to live by, but one should study them carefully to determine exactly what guidelines they represent.

I welcome questions and/or comments.

## The Trinity

The Father, and the Son, and the Holy Spirit intimate a divine unity of one and the same substance in an indivisible equality; and therefore that they are not three Gods, but one God: although the Father hath begotten the Son, and so He who is the Father is not the Son; and the Son is begotten by the Father, and so He who is the Son is not the Father; and the Holy Spirit is neither the Father nor the Son, but only the Spirit of the Father and of the Son, Himself also co-equal with the Father and the Son, and pertaining to the unity of the Trinity.

Augustine, *On the Trinity* I.4

While writing a book on the Christian religion, I was forced to confront the Trinity. I can assure you that the Trinity can be pretty intimidating, as well as confusing. We are told that when Moses confronted the Trinity in the form of a burning bush, he hid his face in fear. Of course, there was no Trinity in the Torah or in the Old Testament. Our first glimpse into the concept of the Trinity comes about with the letters of the apostle Paul. In *I Thessalonians*, Paul mentions the Holy Spirit, and from the context, it can be assumed that, at the time of Paul's letter, the Holy Spirit was a well-established concept within the Christ cult. It is of course the Holy Spirit, along with the Father and the Son that make up the Trinity. According to Paul, it is the inspiration of the Holy Spirit that conveys Paul's gospel, and brings joy, righteousness, wisdom, knowledge, faith, hope, and sanctification, among other things. The question is, where did the idea of the Holy Spirit originate?

The idea of the Spirit of God is well established in the Old Testament, being first mentioned in the first chapter of *Genesis*, where the Spirit moves over the face of the waters of an earth that is void and without form. In the Old Testament, the main task of the Spirit of God is to reveal the will of God. Those who accept the Spirit and do the will of God are the righteous and the prophets. The Spirit of God is part of God, and in no way is it considered a separate entity. The Spirit of God in *Genesis* has nothing to do with the Creation, which is done by God, Himself.

In the late first century BC, in the *Wisdom of Solomon* of the Apocrypha and the Greek Septuagint, we find that the universe was created by God's Word and by his Wisdom, and that Wisdom sits next to the throne of God. The Jewish wisdom literature was extended by the Jewish philosopher, Philo of Alexandria, at the beginning of the Common Era. For Philo, Sophia was the Wisdom of God and the source of the Logos or God's Word. It is the Logos that is the intermediary between God and the universe. It is the Logos that creates the universe. God is outside of space and time, so that it is necessary to have an intermediary to do God's work in the physical universe. The Spirit of God gets little attention in the wisdom literature.

Paul says that he wants to impart wisdom to the Christ cult, and it is this wisdom that is brought by the Holy Spirit. The Spirit of God in the Old Testament is intimately connected with God, since the prophets actually experience God. By the time of Paul's letters, the Holy Spirit is a separate entity and, indeed, it must be separate from God in order to interact with the world and to do God's will. Besides the Holy Spirit, the Christ cult has introduced a godman, Jesus, who has been anointed by God as the Christ, who has come to earth to redeem humankind from sin, so that we may have immortality. For the Jewish members of the Christ cult, Jesus is more of a messiah figure than a god

figure. For the Gentiles, who are familiar with the Greek mystery religions, Jesus is a true godman. This is a godman along the lines of the Greco-Roman god Hercules, who was fathered by Zeus with a human mother. Later, in the Gospels, we find that, like Hercules and his twelve labors, Jesus had to endure labors, first in the desert for 40 days and then at his trial and execution. Hercules, at the end of his mortal life, endures great pain because of the deception of the Centaur. Jesus likewise must endure great pain during crucifixion at the end of his mortal life. Also, like Hercules, Jesus had to go to Hades but did not remain there.

At this point, there is no Trinity. The situation changes dramatically after the Jewish-Roman war of 70 AD and the destruction of the Jewish Temple. The community of Mark produces the first gospel message, *The Gospel According to Mark*. Jesus is baptized by John the Baptist, and the Spirit descends on Jesus like a dove. This is the anointing of Jesus by God's Spirit. This gives the Holy Spirit another task, namely the anointing of the godman, and in *Matthew* Jesus is conceived in Mary's womb by the Holy Spirit. Later, in *Mark*, Jesus is revealed as a true god when he calms the Sea of Galilee. It is at this point that the Christ cult begins to get into theological trouble. This trouble is exacerbated in *The Gospel According to John*, when Jesus becomes God's Word, the Logos of Philo, and the one who created the universe. The problem now is that the Word is a god on the same level as God, Himself. The Christ cult must rationalize this picture of Jesus, the Son of God, with the Old Testament admonition by God that He is a jealous God and that no other gods shall be worshipped. The first of the Ten Commandments says, "Thou shalt have no other gods before me." The early Christians, who liked to quote from the Old Testament, had to justify not only two gods, but three gods if the Holy Spirit is considered an entity separate from God. The problem was how to turn the Trinity of the New Testament into the Monarchy of the Old Testament.

Ever since the conception of the notion of the Trinity, philosophers and theologians have struggled with the concept of the Trinity. The problem is that the Christians wanted to keep the Jewish God, but it was necessary to make Jesus a god also. Therefore, early on, Philo's concept of God's Wisdom, as being an emanation from God, was extended to Jesus as the Logos. For Philo, Wisdom and Logos were both God's emanations. This concept was readily accepted by the Jewish philosophers, but the problem that the Christians faced was to explain a living, breathing Jesus, who is resurrected as a god and sits on the right hand of the Father. This gives Jesus form—a form that Philo's Logos did not possess.

Justin Martyr, an early apologist for the Christian Church, who lived between 100 and 165 AD, considered Jesus to be the Logos, God's Word, who existed before the Creation. However, Justin goes one step further and writes the following amazing sentence: "For at that juncture, when Moses was ordered to go down into Egypt and lead out the people of the Israelites who were there, and while he was tending the flocks of his maternal uncle in the land of Arabia, our Christ conversed with him under the appearance of fire from a bush." Justin is taking the bold step of making Jesus the God of the Old Testament. And because God is outside of space and time, succeeding generations of Christians have interpreted the God of the Old Testament as being Jesus as He interacts with the world.

Irenaeus, the second century bishop of Lyon, was the first true Christian philosopher. Irenaeus has written about the Trinity. Irenaeus tells us that the Son is the Word, and the Holy Spirit is the Wisdom. Concerning the functions of the Trinity, Irenaeus writes, "And

it is the Father who anoints, but the Son who is anointed by the Spirit, who is the unction.” The unction is the anointing oil. In the Trinity, this makes the Father the anointer, the Son the anointed, and the Holy Spirit the anointing oil. As Irenaeus further writes, “Thus, therefore, was God revealed; for God the Father is shown forth through all these, the Spirit indeed working, and the Son ministering, while the Father was approving, and man's salvation being accomplished.” We see therefore that the Holy Spirit works, the Son ministers, and the Father approves. This, indeed, should clarify the Trinity for all of you!

According to Irenaeus, besides the Creation, the purpose of the Trinity is to give Man wisdom and knowledge by which he can accept Jesus Christ and through the Christ be united with the Father. The Holy Spirit conveys the knowledge or wisdom to Man so that Man may ascend to the Son and thence to the Father. In Irenaeus' philosophy, Jesus is God's agent, who created the universe. Indeed, God established all things by His Word and bound them together by His Wisdom. We notice also, that Jesus Christ is the Son who acts as an intermediary between the Holy Spirit and the Father.

In the late second century in Rome, there erupted a controversy over the nature of the Trinity, especially the relation of the Father to the Son. This is a controversy that eventually led to the Nicene Creed in 325 AD. The controversy has been labeled the Monarchian controversy. The Monarchianists claimed that there exists only one God—a type of monarchy. However, within Monarchianism there were two views—Modalism and Adoptionism. In the Modalist view, there is one God who can take different forms, appearing sometimes as the Father, sometimes as the Son, and sometimes as the Holy Spirit. In the Adoptionist view, God adopted Jesus at his baptism by John the Baptist, so that the Father, the Son, and the Holy Spirit are all one and the same. Then there is the view of Irenaeus, whereby there exist three separate entities, which make a Trinity. Confusion arose because the Christian philosophers had not really been clear in their discussions of the Trinity. This is because it was really impossible to square three gods with the monotheism of the Old Testament. The *Gospel of John* had given the Christian philosophers an impossible task. Any way you try to fit a trinity of gods into a monotheistic philosophy is going to be unsatisfactory. It was even difficult to decide on how the Father, the Son, and the Holy Spirit related to each other and what each of the three did in the world. On top of this, there was God's Wisdom, which was sometimes the Word and at other times the Holy Spirit.

The great Christian theologian, Tertullian of Carthage, came to the defense of the Trinity in his writings that attacked the Monarchians, whom he labeled heretics. Tertullian took it as a rule of faith that the Father, and the Son, and the Spirit are inseparable from each other, “that the Father is one, and the Son one, and the Spirit one, and that They are distinct from Each Other.” Tertullian went on to say that the Trinity is a Unity of substance, condition, and power but a Trinity in degree, form, and aspect. If it is a Trinity in form, then there are three separate persons or entities. If it is a Unity of substance, then there are three persons composed of the same substance. To use a word that was coined in the Nicene Creed, a hundred years later, the Father, Son, and Holy Spirit are “consubstantial,” meaning “of the same substance.” This is a word that some claim was made up by the emperor Constantine in a desperate effort to settle the Monarchian controversy and bring stability to the Roman Empire.

The third century theologian, Origen of Alexandria, considered one of the greatest of Christian thinkers, believed the Wisdom of God to be the same as the Word of God. Origen has the Son created after the Father, a point of contention that was to plague Origen's work for centuries. Even Origen was at a loss to define the Holy Spirit or to conjecture when the Holy Spirit first appeared. Origen suggests that the Holy Spirit is that selfsame Spirit of God mentioned in *Genesis*, and the Holy Spirit has always existed. Origen posits that people owe their existence to God the Father, their rational nature to the Word, and from the Holy Spirit they get their holiness. The Spirit of God will convey the gift of wisdom on the sanctified. According to Origen, the principle purpose of the Holy Spirit is to convey wisdom and knowledge, especially knowledge of the Trinity. It is not possible to understand the Trinity until the Holy Spirit has entered your soul. That may be why many of us have so much trouble understanding the Trinity.

The controversy over the nature of the Trinity was brought to a head by a priest in Alexandria by the name of Arius in the early fourth century. Arius taught that the Son was created by the Father and had not always existed. This meant that the Son could not be a god on the same level with the Father. For his views, Arius was excommunicated by the bishop of Alexandria. Arius appealed to friendly bishops in Syria and Asia Minor, who upheld his views. This started what has become known as the Arian controversy. The controversy reflected the views of the remnants of the Jewish and Gentile Christ cults. The Christians from the Jewish Christ cults, who had followed Peter, were scattered throughout Syria and Asia Minor. They believed in minimizing the role of the Son and maximizing the role of the Father. Hence, they were happy with the Arian view of the Son. The Christians from the Gentile Christ cults of Paul wanted to give the Father and the Son equal standing. These Christians were from Egypt and Italy.

The Arian controversy involved more than just the nature of the Trinity. The Christian Church had been recognized by Constantine, and Christianity was fast becoming the state religion. The bishops of the large metropolitan areas in the Roman Empire were becoming exceedingly powerful. Wealth and fame accrued to those bishops who curried the favor of the emperor. One way to curry the favor of the emperor was for one's religious views to be accepted as orthodox. To those bishops who lost the struggle went excommunication and oftentimes exile, imprisonment, and death. So, you can see that the stakes were high. It was a struggle between the sees of Alexandria and Constantinople.

Desperate to restore harmony to the Church and to the empire, Constantine called for a Council of bishops to be held at Nicaea in the year 325. This Council had the task of resolving the Arian question as to the nature of Jesus. After much infighting and politicking, the Council came up with the Nicene Creed, which was the orthodox doctrine of the Catholic Church. I shall read you the official Creed of the Council:

*We believe in one God, the Father Almighty, Maker of all things visible and invisible; and in one Lord Jesus Christ, the Son of God, the only-begotten of the Father, that is of the substance of the Father; God of God, Light of light, true God of true God; begotten not made, consubstantial with the Father; by whom all things were made both which are in heaven and on earth; who for the sake of us men, and on account of our salvation, descended, became incarnate, was made man, suffered and rose again on the third day; he ascended into the heavens, and will come to judge the living and the dead. And in the Holy Spirit.*

You notice how the Holy Spirit got tacked onto the end of the Creed. The Council was not really interested in the Holy Spirit; the controversy was over the relation of the Son to the Father. Also, the Council was not interested in the human nature of Jesus. This was not an issue at the time. However, it would soon become as great a controversy as the Father-Son controversy.

The Council of Nicaea had not resolved the problem of the humanity of Jesus. It was difficult for priests to explain to the laity how God could suffer and die on the cross. After all, by their very nature, gods do not really suffer. Also, God had been declared to be incorporeal, and incorporeal beings cannot suffer. Origen had said that the Logos inhabited the human body and the human soul of Jesus and that when Jesus spoke it was really the Logos who spoke. This idea was termed the “two-natures” concept of Jesus. The human Jesus suffered and died on the cross, but the divine Jesus (the Logos) could never die.

The Syrian, Apollinaris, in the mid fourth century declared that Christ was human in all but one aspect—the Logos had replaced the human mind. This gave Christ one personality or one divine nature. In the Council of Constantinople, called by Emperor Theodosius in 381, it was held that Jesus and God are consubstantial and that the difference between the Son and the Holy Spirit is that the Son is “begotten,” while the Spirit “proceeds” from the Father. The Council supported the two-natures doctrine against the Apollinarians. The two-natures proponents liked to quote the passage from *Luke* that says, “And Jesus increased in wisdom and in stature, and in favor with God and man.” Since the Logos was perfect, it was not possible for him to increase in wisdom, and thus this must refer to the manhood of Jesus and not his divinity. Christ is two natures, a union of one person and one Son. Christ had to possess a human nature if He were to redeem humanity. The one-nature advocates argued just as adamantly that Christ had to be of one divine nature if He were to redeem humanity, since human flesh and blood are tainted with sin.

Again, the controversy over the human nature of Jesus pitted Alexandria against Constantinople. Cyril, the archbishop of Alexandria, was a believer in the full humanity of Christ. The human Jesus had a human body and soul. The Word took on the body of Jesus, so that the nature of Jesus was the Word and the union of human and god was one nature, that of the Word. In 428, Nestorius of Antioch was installed as archbishop of Constantinople. Nestorius believed that the union of man and god produced one man, Jesus, but Jesus possessed two natures—one is the person of Christ and the other is the Son of God. When Nestorius preached that the Virgin Mary was “Christ-bearer” instead of “God-bearer,” Cyril was furious. You may remember Cyril as the one who instigated the riots against the Alexandrian Jews in 315 and who was responsible for the murder of the Neoplatonist philosopher Hypatia.

The feud between Cyril and Nestorius was as mean and nasty as had been the controversy over the Father-Son relation a hundred years earlier. We report a little of the bitter struggle that ensued, because it reveals as much about Christianity as it does about the nature of Jesus. When news of the controversy reached Emperor Theodosius, the emperor immediately called for a council to be held at Ephesus in 431. I now quote from my book: “The Council of Ephesus in 431 was full of intrigue and infighting among the attending bishops. The Council immediately excommunicated Nestorius. Four days later, Syrian supporters of Nestorius arrived and excommunicated Cyril and Bishop Memnon

of Ephesus. Then the delegation from Rome arrived and reinstated Cyril. Both sides sent delegations to the emperor at Chalcedon...Cyril then moved into high gear and spent large sums of money on bribes to influence the palace advisors of Theodosius.” The upshot of all of this was that Nestorius was retired to Antioch in Syria and Cyril had to sign a Formulary that stated, “Christ was perfect God and perfect man consisting of rational soul and body, of one substance with the Father in his Godhead, of one substance with us in his Manhood, so that there is a union of two natures, on which ground we confess Christ to be one and Mary to be mother of God.”

By 446, both Cyril and Nestorius had died and a new crew of bishops was on board to instigate new intrigues. A new controversy arose when Flavian was ordained bishop of Constantinople with the help of a certain Chrysaphius, who held a high position in the Imperial Court of Emperor Theodosius. Chrysaphius hinted strongly that he would like a token of appreciation from Flavian. Chrysaphius was thinking in terms of gold, but Flavian presented him with consecrated bread instead. Chrysaphius, in league with other unsavory characters, decided to remove Flavian from his post as bishop. They seized on a new doctrine of Jesus that stated that Jesus possessed a single divine nature and no human nature. This doctrine is known as Monophysitism. Chrysaphius and his colleagues were condemned by Flavian as being Apollinarianists. The followers of Chrysaphius in turn appealed to Alexandria and Rome to support their views. When Emperor Theodosius caught wind of another possible schism in the Church, he called for a council of bishops to be held at Ephesus in 449. To make a long story short, Dioscorus, Bishop of Alexandria, presided over the Council and arranged the proceedings so that Flavian did not have a chance of winning. It is reported that Dioscorus asked of the assembly, “Two natures before the union, one afterwards. Is this not what we all believe?” “Yes, yes!” yelled the assembly, and immediately the council erupted in anger at Flavian and his supporters. There were cries to burn the heretics and to “cut to pieces the man who divides Christ. Anathema to him who says two natures after the incarnation.” A vote was taken, and, with Imperial soldiers looking on, the vote was unanimous to depose Flavian. Flavian was bound, assaulted, imprisoned, and exiled. He died of his injuries the next year. Jesus was now back to one nature. However, discord was on the move, and Jesus’ one nature was not to last.

At Rome, Pope Leo was furious when he heard what had happened at Ephesus. By now the Bishop of Rome was being referred to as the Pope. Leo had a strong ally in the empress Pulcheria, who had been snubbed earlier by Chrysaphius. When Emperor Theodosius was killed in a fall from his horse, Pulcheria had Chrysaphius executed and the body of Flavian returned to Constantinople to be buried with honors. The struggle was now between Anatolius, the new Bishop of Constantinople and Leo of Rome. The new emperor, Marcian, called a council to meet in Chalcedon in 451. The nature of Jesus again hung in the balance. The Council of Chalcedon attracted 520 bishops. As the proceedings unfolded, it became clear that Flavian had not been given a fair hearing. When a letter from Pope Leo supporting the two-natures doctrine was read, the bishops shouted, “This is the faith of the Fathers and of the Apostles. This we all believe.” Dioscorus was exiled and died in 454. The final form of the Chalcedonian Definition read:

*Wherefore, following the holy Fathers, we all with one voice confess our Lord Jesus Christ one and the same God, the same perfect in Godhead, the same perfect in manhood,*

*truly god and truly man, the same consisting of a reasonable soul and a body, of one substance with the Father as touching the Godhead, the same of one substance with us as touching the manhood, like us in all things apart from sin; begotten of the Father before the ages as touching the Godhead, the same in the last days, for us and for our salvation, born from the Virgin Mary, the Theotokos, as touching the manhood, one and the same Christ, Son, Lord, Only-begotten, to be acknowledged in two natures, without confusion, without change, without division, without separation; the distinction of natures being in no way abolished because of the union but rather the characteristic property of each nature being preserved and concurring into one Person and one subsistence not as if Christ were parted or divided into two persons, but one and the same Son and Only-begotten God, Word, Lord, Jesus Christ; and our Lord Jesus Christ instructed us, and the Creed of the Fathers was handed down to us.*

The bishops of the Monophysite congregations did not sign the Definition, since they knew full well that signing the Definition might result in their deaths. To this day the Armenian, Coptic, and Jacobite Churches are all Monophysite. The Councils of Nicaea and Chalcedon were not the last words. According to W. H. C. Frend in his book, *The Rise of Christianity*, “In the East, the steady development of contradictory theological interpretations of the mystery of the person of Christ and the rivalries between the major bishoprics prevented the achievement of religious consensus...

“The Council of Chalcedon in 451 represented a great effort at reconciliation on all fronts, but it failed...The religious sense of the majority of Christians in the East rejected it. From then on, Christendom gradually fragmented into its Latin, Nestorian, Orthodox, and Monophysite segments, each becoming increasingly identified with its own geographic and cultural area.”

In conclusion, I don't know if a definitive answer can be given to the question, What is the Trinity? In order to answer this question, the historical background must be understood. At different times and under different circumstances, theologians have produced different answers. I have endeavored to give you some of the flavor of the several doctrines that have explained the Trinity. However, as one of my physics professors once said, “I may have been more of a filter than an illumination.”

I invite your comments and questions.

## Original Sin

Then as one man's trespass led to condemnation for all men, so one man's act of righteousness leads to acquittal and life for all men. For as by one man's disobedience many were made sinners, so by one man's obedience many will be made righteous.  
Saint Paul, Romans 5:18

Much of what I know about sin I learned from my early years at youth revivals. Many of you have heard the story of the boy who attended a youth revival. When he got home, his mother asked him what the preacher talked about. The boy replied, "sin." When the mother asked what the preacher said about sin, the boy thought for a few moments and then answered, "He said it was bad!"

In April 2004, I led three forum discussions entitled "Concepts of the Soul." However, Ted Reid, who was in charge of the Forum, announced in the church bulletin that I was leading a forum on "Original Sin." I have since considered his advice and have decided to talk about original sin. For many people, the concept of original sin is really quite straightforward—Eve gave Adam the apple. Period. End of story.

Actually, upon closer examination, I find the story of original sin to be quite fascinating. The protagonists in this story are (1) the ancient author of Genesis, (2) the Jewish philosopher Philo, (3) Saint Paul, (4) Saint Augustine, (5) a monk named Pelagius, and (6) a lawyer named Celestius. Minor players are Saint Jerome, Pope Innocent I, Pope Zosimus, and several Roman emperors.

The story begins with Genesis 2:7-9: *then the Lord God formed man of dust from the ground, and breathed into his nostrils the breath of life; and man became a living being. And the Lord God planted a garden in Eden, in the east; and there he put the man whom he had formed. And out of the ground the Lord God made to grow every tree that is pleasant to the sight and good for food, the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil.* Continuing with Genesis 2:16-17: *And the Lord God commanded the man, saying, "You may freely eat of every tree of the garden; but of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall die."* The story continues with Genesis 3:2-3: *And the woman said to the serpent, "We may eat of the fruit of the trees of the garden; but God said, 'You shall not eat of the fruit of the tree which is in the midst of the garden, neither shall you touch it, lest you die.'"* The serpent convinced the woman to eat the forbidden fruit; she even gave some to her husband, and he ate. The two became as gods, knowing good and evil. God then spoke to the man, saying, *"Have you eaten of the tree of which I commanded you not to eat?" The man said, "The woman whom thou gavest to be with me, she gave me fruit of the tree, and I ate."* The woman tells God that the serpent made her do it. *To the woman he said, "I will greatly multiply your pain in childbearing; in pain you shall bring forth children, yet your desire shall be for your husband, and he shall rule over you." And to Adam he said, "Because you have listened to the voice of your wife, and have eaten of the tree of which I commanded you, 'You shall not eat of it,' cursed is the ground because of you; in toil you shall eat of it all the days of your life; thorns and thistles it shall bring forth to you; and you shall eat the plants of the field. In the sweat of your face you shall eat bread till you return to the ground, for out of it you were taken; you are dust, and to dust you shall return."*

After clothing Adam and Eve, God continues his instructions: *Then the Lord God said, "Behold, the man has become like one of us, knowing good and evil; and now, lest he put forth his hand and take also of the tree of life, and eat, and live forever"—therefore the Lord God sent him forth from the garden of Eden, to till the ground from which he was taken. He drove out the man; and at the east of the garden of Eden he placed the cherubim, and a flaming sword which turned every way, to guard the way to the tree of life.*

What does this story mean? Who knows? We must turn to philosophers and theologians to tell us what it means. The Jewish philosopher Philo, who lived in Alexandria in the first century, is often quoted by the Christian fathers when they try to understand the Old Testament. Not being able to make sense of a literal interpretation of Genesis, Philo proposed an allegorical interpretation. For Philo, God created the mind of man in the image of God. God then breathed His spirit into the mind, which is the dominant part of the soul. According to Philo, the tree of life represents goodness and piety and is central in the Garden of Eden. We notice that Adam and Eve bypassed the tree of life to partake of the tree of good and evil. For Philo, the tree of good and evil imparts both wisdom and wickedness; eating of this tree results in the death of the soul but not the death of the body. The body dies when it is separated from the soul. The death of the soul is the destruction of virtue and admission of vice. Hence, according to Philo, Adam and Eve suffered a spiritual death but not a bodily death after eating of the tree of good and evil.

Saint Paul was a man obsessed with sin and death. In Chapter 15 of *I Corinthians*, Paul discusses the resurrection of Christ and what it means. In *I Corinthians* 15:20-26, Paul writes, *But in fact Christ has been raised from the dead, the first fruits of those who have fallen asleep. For as by a man came death, by a man has come also the resurrection of the dead. For as in Adam all die, so also in Christ shall all be made alive. But each in his own order: Christ the first fruits, then at his coming those who belong to Christ. Then comes the end, when he delivers the kingdom to God, the Father after destroying every rule and every authority and power. For he must reign until he has put all his enemies under his feet. The last enemy to be destroyed is death.* Later, in verses 54-57, Paul writes, ... *"Death is swallowed up in victory." "O death, where is thy victory? O death, where is thy sting?" The sting of death is sin, and the power of sin is the law. But thanks be to God, who gives us the victory through our Lord Jesus Christ.*

This same theme appears in *Romans* 5:12-14, where Paul writes, *Therefore as sin came into the world through one man and death through sin, and so death spread to all men because all men sinned—sin indeed was in the world before the law was given, but sin is not counted where there is no law. Yet death reigned from Adam to Moses, even over those whose sins were not like the transgression of Adam, who was a type of the one who was to come.*

This last passage is often quoted to establish the hereditary nature of sin. It is Adam who brought sin into the world and this sin led to death for Adam and his descendants. However, a deeper reading of Paul's remarks leads to the following conclusions. Adam's transgression resulted in his banishment from the Garden of Eden and his exclusion from the tree of life. It follows that Adam's descendants were also excluded from the tree of life. Hence, Adam's trespass brought death into the world. Paul tells us that there can be no sin against God if there is no Law of Moses to be broken. Because sin existed before

the Law was given, the sin that reigned from Adam to Moses could not have resulted in death. It was the exclusion from the tree of life that gave death to the world. What sin does do, according to Paul, is to deprive the sinner of God's grace. Man will die no matter what he does, but eternal life can be achieved through Jesus Christ. Otherwise, the sinner faces everlasting death.

We now come to Saint Augustine, Christianity's foremost proponent of original sin. Augustine was born in what is now Algeria in 354. In 370, at 16 years of age, Augustine went to Carthage and became involved with Manicheism. In Manicheism, the universe is divided into realms of good and evil or light and darkness. The realm of light is ruled by God and the realm of darkness is ruled by Satan. The human race emerged when there was a mixing of the two realms. Thus, the human race is partly good and partly evil. This explains the presence of evil in the world. The world is evil, and the human spirit must be redeemed from its evil human body. Although Augustine gave up Manicheism when he went to Rome in 383, he could never quite purge himself of Manicheism. Augustine became a Christian in 386 in Milan, and later he became bishop of Hippo in North Africa.

In Books 13 and 14 of *The City of God*, Augustine lays out his doctrine of original sin. It is believed by many scholars that this concept of original sin was embedded in Augustine's psyche by his days as a Manicheist. Augustine argues that there are two deaths. The first death is the death of the body when the soul leaves it. The death of the soul occurs when God forsakes it. Upon resurrection, the body is reunited with the soul. If the soul has not been forsaken by God, the reunited body and soul will live eternally in heaven. If the soul has been forsaken by God, it suffers punishment until the resurrection, when the reunited body and soul suffer an eternal death of everlasting punishment, which Augustine calls the second death. Augustine tells us that God threatened Adam and Eve with the second death if they should disobey God's commandment. The eating of the forbidden fruit led Adam and Eve and all their descendants to the second death, except for those who were saved by the grace of God.

Augustine maintained that the eating of the forbidden fruit was the original sin. Since we are all descended from the first man, whose seminal nature included original sin, we all of necessity must possess this original sin. All the descendants of Adam have carried this sin along with them. It was passed along by the lustful act of procreation or "carnal fecundity" as Augustine refers to it. According to Augustine, we have death because of the original sin of Adam and Eve, and this original sin is passed along to our children through sinful lust involved in the act of procreation. This thinking is pure Manicheism. It casts man and the world into the darkness of evil.

Such thinking bothered a British monk named Pelagius. Pelagius was very pious and devoted to asceticism. He spent several years in Rome but was forced to leave when the barbarians attacked the city in 410. Pelagius believed in human free will and the ability of Christians to live a sinless life. These ideas clashed with those of Augustine, and Pelagius wrote a commentary on the letters of Saint Paul, which opposed the views of Augustine concerning original sin and the necessity of infant baptism.

After leaving Rome, Pelagius resided briefly in North Africa before proceeding on to Jerusalem. Accompanying Pelagius to North Africa was a lawyer named Celestius, who had been won over by Pelagius' ideas and had become a lay-monk while in Rome. Augustine probably never would have heard of Pelagius if it had not been for Celestius, who remained in North Africa, in Carthage. Celestius promoted Pelagian ideas through

writing and preaching. So many people were turning to Pelagianism in North Africa, that Augustine was forced to defend his ideas of original sin in what has come to be known as the Pelagian Controversy. Augustine bitterly attacked Pelagius and his doctrine of free will and sinless conception and birth.

Meanwhile, news of Augustine's attack on Pelagianism reached Pelagius in Palestine, and Pelagius replied in several written works attacking Augustine. In Jerusalem, Saint Jerome, who is famous for his translation of the Bible into Latin, brought charges of heresy against Pelagius. By distancing himself from the views of Celestius, Pelagius was acquitted of heresy charges. Both Augustine and Jerome continued their attacks on Pelagius. In 416, two synods held in North Africa found Pelagianism to be heretical. Letters from the synods were sent to Pope Innocent I, who upheld the teaching on original sin and excommunicated both Pelagius and Celestius. Augustine joyfully announced from the pulpit in 417 that the Pelagian Controversy was now settled.

Pope Innocent I died in 417, and Pope Zosimus took his place. Zosimus was not as convinced as Innocent I had been that Pelagius was guilty of heresy. Zosimus ordered the Africans to reverse their sentence of heresy. Augustine and the North African bishops moved into high gear, convened a synod at Carthage, and implored Zosimus not to rescind the decision of Innocent I. The high esteem in which Augustine was held and Augustine's influence with the Roman emperor won the day, and Zosimus backed down from his earlier decision. In the famous Council of Carthage in 418, two hundred bishops declared Pelagianism to be heresy and supported Augustine's doctrine of original sin to be the official dogma of the Catholic Church.

Indeed, Augustine's doctrine of original sin was affirmed by the Council of Trent in 1546 and has remained the official dogma of the Catholic Church to the present day. Following the Council of Trent, the Catholic Catechism states, "Following St. Paul, the Church has always taught that the overwhelming misery which oppresses men and their inclination toward evil and death cannot be understood apart from their connection with Adam's sin and the fact that he has transmitted to us a sin with which we are all born afflicted, a sin which is the 'death of the soul.'" Whether Paul ever meant for his words to have this meaning is open to argument. The dogma, however, remains Manicheistic. This is ironic when we consider Pelagius' efforts to uphold the traditional Christian teaching in opposition to the Manicheism of Augustine.

I now offer some of my own thoughts about Judeo-Christian original sin. It all goes back to the early stories that found their way into Genesis. No one knows how these stories came into existence. It is believed that they were written for the first time in the ninth or eighth centuries BC, when the Phoenician, Hebrew, and Greek alphabets were adopted. This encouraged the writing of texts, such as the epics of Homer and the Laws of Moses. The writers of Genesis no doubt depicted the stories that circulated about the hardships that the Jews faced and how these hardships were related to the Jewish God. Whether the reasons for the hardships were meant to be allegorical or literal is unknown. It is known that the Torah emphasizes the Nation of Israel as being the descendants of Abraham. It is the lineage of Abraham being passed down from generation to generation that is important; the individual was not important, and the death of an individual was final in that there was no afterlife. It is difficult for me to conceive of the writers of Genesis being concerned with the reasons for human death. Their time was cyclic, and the birth to death process was a natural one in the world. The relation of man to God was

one of Temple Judaism, where one had to go through the Temple priests to communicate with God.

It was not until the Babylonian exile and the destruction of the Temple in the fifth century BC that new ideas of a personal god, a possible resurrection, and the chance for eternal life entered the Jewish psyche. I suspect, but it can never be proven, that, with the control of the Torah out of the hands of the priests, changes occurred in the Torah to reflect the new thinking of the people. At this time, Genesis may have undergone a change to reflect this new thinking about God, immortality, and why God had endowed life with such hardships. It may have been at this time that the Garden of Eden story evolved to its final form. It is no accident that the Garden of Eden was near the confluence of the Tigris and Euphrates Rivers in Babylonia and that Abraham came from the city of Ur, also in Babylonia.

Certainly, the Jewish philosopher Philo did not believe in a literal interpretation of Genesis. For Philo, the tree of knowledge of good and evil and the tree of life were metaphors. The Garden of Eden is the place where virtue resides; the trees in the Garden represent virtues. The tree of life is the most general virtue, which is called “goodness.” Philo suggests that the tree of knowledge of good and evil may have resided outside the Garden and that this tree represents the destruction of virtue. The destruction of virtue is the death to which God refers when He instructs Adam and Eve not to eat of the fruit of the tree of good and evil.

Saint Paul took a more literal interpretation of the Garden of Eden story than did Philo. There is no indication that Paul had ever heard of Philo, who was a contemporary of Paul. For Paul, Adam and his descendants had been denied access to the tree of life, and it is this that brought death into the world. Paul had a fear of death, and wrote that everlasting death is the result of disobeying God’s law and not accepting Christ as the savior who can free us from death and give everlasting life. Paul did not subscribe to the Pharisees’ idea of everlasting agony in hell. For Paul, death itself was the ultimate punishment.

I do not believe that Paul subscribed to an original sin that is handed down from generation to generation. At least Pelagius did not find an original sin in his study of Paul’s writings. It is believed that the first mention of original sin by the Church fathers was by Tertullian, a third-century theologian in Carthage. In the mid fourth century, a tract appeared in Rome attributing the concept of original sin to Paul. Hence, the idea of original sin was not new when it was espoused by Saint Augustine in the late fourth century. However, it was Augustine who made original sin a part of the dogma of the Catholic Church—a dogma that persists to the present day.

I invite your questions and comments.

## Energy, Population, and Religion

### Part One: Energy

Technology exists now to produce in virtually inexhaustible quantities just about all the products made by nature. We have in our hand now the technology to feed, clothe and supply energy to an ever-growing population for the next seven billion years.

Julian Simon, economist, Cato Institute Report, 1995

Last year, delegates to the Unitarian Universalist Association voted to make global warming the Study/Action Issue for congregations for the next two years. Global warming is the result of increased energy consumption and growing worldwide population. The problem of increased energy consumption amid dwindling oil and gas reserves has been recognized for at least 35 years, and the problem of world overpopulation was recognized by Thomas Malthus in his "Essay on the Principle of Population" published in 1798. Malthus believed that population growth could outstrip food production, leading to mass starvation, disease, and war. The Industrial Revolution of the nineteenth century and the capitalism that accompanied it, leading to higher standards of living and increased food production, discredited Malthus. However, I believe that there must exist an undercurrent of Malthusian truth in the world economy.

There is an anti-Say's Law that demand creates its own supply based on the work of the nineteenth century French economist Jean Baptiste Say. I am not an economist, but I sense that many economists are of the opinion that if a demand exists, a supply will be found. This is reflected in our opening words from the economist Julian Simon of the Cato Institute.

The solution to our energy problem is complex, involving future oil discoveries, technological advances in energy use, discoveries of energy sources, and the economics of implementing these in a complex globalized society. The problem of global warming is intimately tied up with the energy problem. How all of this will ultimately play out is anybody's guess. My purpose today is to point out the energy problems and possible solutions, as they now exist, as part of a two-part series discussing the energy problem, the consequences of overpopulation, and the role religion plays in the treatment of these problems.

I remember expressing my concerns about running out of oil to the petroleum engineers at Tech in the late 1960s. They laughed and told me that Texas would never run out of oil. Today we find that Exxon Mobil has stated that the Texas fields have passed their peak and it is time for oil companies to move elsewhere. In fact, a geophysicist by the name of Hubbert created a mathematical model of oil production in the United States in 1956. This model gave a bell shaped curve that predicted that oil production in the United States would peak in 1970. United States oil production did indeed peak in 1970, and has been decreasing ever since. Hubbert applied his analysis to worldwide oil production and predicted a peak at the year 2000 as shown on the front of your Order of Service. A recent analysis by the American Association of Petroleum Geologists has moved that peak to 2040, with an optimistic prediction of 2060. The optimistic projection assumes twice the amount of proven oil reserves and a 1% growth in demand. The major unknown factor in these projections is future oil demand. With less

than 5% of the world's population, the United States consumes 25% of the world's energy and generates 25% of the world's carbon dioxide. Energy experts expect China to experience a five-fold increase in oil consumption in the next 20 years. Overall, a 60% increase in oil consumption is expected worldwide over the next 20 years. Such increases could very well shift the peak in the Hubbert curve from 2040 down to 2020. Even so, oil production will continue up to the year 2100. By then, oil extraction may prove to be uneconomical.

There are other sources of fossil fuels besides oil found in sedimentary rocks. For example, Colorado has 500 billion barrels of oil in oil shales. There are 300 billion barrels of oil in the oil sands of Canada, and two trillion barrels of oil in the heavy oil deposits in Venezuela. These nearly 3000 billion barrels of oil would last the United States 500 years at the present rate of consumption of six billion barrels per year. The problem is two-fold. First, it is expensive to retrieve oil from these deposits and in many instances the technology to extract the oil has not been sufficiently explored. Second, the continued burning of fossil fuels exacerbates global warming.

Other sources of energy are coal and natural gas. Indeed, oil, coal, and natural gas now account for 85% of the world's energy consumption. Coal is used primarily in power plants to generate electricity. At current rates of consumption, United States coal reserves will last for 250 years. Natural gas is a clean substitute for coal in power plants and is ideal for space heating. However, a study of natural gas production shows a curve similar to that for oil production, with natural gas being depleted worldwide in 40-70 years depending on rates of consumption. Again, consumption is the big unknown in the equation. Asia, Central America, and South America are expected to triple their natural gas demands over the next twenty years.

As we mentioned earlier, the continued burning of fossil fuels exacerbates the global warming problem. Global warming, by itself, is neither good nor bad. While global warming could turn our American Midwest into a desert, it could also turn Siberia into a farming paradise. If these changes occur slowly over several centuries, societies have time to adjust to them. The problem is that such changes could occur in this century, not giving our geopolitical structures time to adjust. The result could be nuclear war. This is why the rate of global warming must be slowed.

Studies of tree rings, ice cores, carbon dioxide concentrations, glacial melt, and computer models have convinced climate scientists from over 40 countries that global warming is a fact. However, there is a very vocal minority that continues to question the validity of global warming. Attacks against global warming studies have come from the Global Climate Coalition, a group supported by coal, oil, utility, automobile, and chemical companies. Doubts about global warming have reached the halls of Congress. Rep. Dana Rohrabacher (R-CA), as chairman of a science subcommittee has expressed concern about funding scientific research that supports global warming. The Republican majority in congress has fought the idea of global warming and has written specific restrictions on climate research into appropriations bills. The Wall Street Journal late last year quoted Michael Crichton's latest book, *State of Fear*, that global warming is a plot by greedy environmentalists to raise money. Oklahoma Republican senator James Inhofe says that global warming is "the greatest hoax ever perpetrated on the American people." Alaska's Republican representative Don Young dismissed a 1,200-page report by 300 scientists showing global warming in the Arctic by declaring, "My opinion is as sound as

any scientist's." President Bush repudiated the Kyoto accord. All this makes it exceedingly difficult to mount any sustained effort at controlling the greenhouse gas emissions that promote global warming. Recently Lord May, president of Britain's Royal Society, said that Bush's policy on climate change was "misguided" and that the administration "has consistently refused to accept the advice of the U.S. National Academy of Sciences..." May added, "The G8 summit is an unprecedented moment in human history... Our leaders face a stark choice to act now to tackle climate change or let future generations face the price of their inaction. Never before have we faced such a global threat. And if we do not begin effective action now it will be much harder to stop the runaway train as it continues to gather momentum."

Getting back to the energy problem, there are so-called alternate and renewable energy resources that are being promoted by various groups. These include nuclear energy, wind energy, solar energy, biomass energy, geothermal energy, and tide energy.

Nuclear energy is currently supplying 8% of the energy needs of the United States. However, the public is leery of nuclear energy. There has not been a new nuclear power plant built in the United States since the Three Mile Island accident in 1979. The 1986 Chernobyl disaster only added to the public's distrust of nuclear energy. This situation is beginning to change as the Bush administration is encouraging the nuclear power industry. President Bush's National Energy Policy "recommends that the President support the expansion of nuclear energy in the United States as a major component of our national energy policy."

Nuclear energy has been enthusiastically embraced by several countries. In France, 76% of electricity is generated with nuclear reactors. In Japan it is 33%, and in Russia it is 12%. Unlike the United States, these countries reprocess their spent fuel. The reprocessing in turn reduces the amount of radioactive material that must be stored. This gets us into one of the problems associated with nuclear energy—storage of nuclear wastes. In order to understand the problems created by nuclear energy, it is necessary to give you a short primer on nuclear reactors.

The reactors that are presently in use are of three kinds—light water reactors, heavy water reactors, and breeder reactors. The fuel for light water reactors is uranium-238 enriched to about 4% in uranium-235. The water slows the speed of the neutrons so that they are captured by the uranium-235 nucleus. The uranium-235 nucleus then fissions into elements of smaller masses with release of three neutrons, which then are captured by three more 235 nuclei in a nuclear chain reaction. The reaction is controlled by rods of cadmium in the reactor core. Each fission event produces fission products plus heat. It is this heat that is used to drive turbines to generate electricity. This process creates several problems for the nuclear industry. There is a range of fission products between atomic weights 80 and 160. Some of these are radioactive, such as strontium-90, iodine-129, and cesium-137, with half-lives running from 30 years to 17 million years. Although uranium-238 will not fission, it will capture neutrons, giving rise to more massive elements in the actinide group such as neptunium-237, plutonium-239, and americium-243. It is the plutonium, with a half-life of 24,000 years, which builds up in the reactor core and presents a storage problem, since it must be guarded for 100,000 years. As of 1990, there were 430 nuclear power plants worldwide, producing 140 tons of plutonium-239 per year. The plutonium is both a blessing and a curse. It is a blessing in that the plutonium-239 will fission in so-called "fast reactors" that do not slow the neutrons. The

breeder reactor is an example of a fast reactor. It is a curse in that plutonium-239 is used in nuclear weapons and is extremely toxic.

The heavy-water reactor is similar to the light-water reactor, but the neutrons are not slowed as much, making a collision with a uranium-235 nucleus more probable, so that no uranium enrichment is necessary. The slow-neutron reactors eventually become contaminated with nuclear products, requiring the reactors to be shut down. The spent nuclear fuel can then either be stored or reprocessed. The power plants in the United States do not reprocess the spent fuel; the fuel is placed in containers for later storage. The United States government does reprocess fuel by a procedure called Plutonium Uranium Recovery by Extraction or PUREX in order to get weapons grade plutonium. Reprocessing of spent fuel is expensive, but it may be necessary for power plants to reprocess the fuel in order to conserve supplies of uranium.

Because of the depletion of uranium deposits, it may be necessary to convert power plants to breeder reactors. The breeder reactor produces more plutonium than it uses, because of neutron capture by uranium-238. At steady-state breeding conditions, the reactor core needs at least one-half ton of plutonium and in some cases up to two tons of plutonium. According to Edward Teller, “if you put together two tons of plutonium in a breeder, one tenth of one percent of this material could become critical...In an accident involving a plutonium reactor, a couple of tons of plutonium can melt.” It is estimated in the January 2005 issue of *Physics & Society* that the coal-fired plants in the United States could be replaced with 250 nuclear reactors. This would then give us a total of 350 nuclear reactors in the United States. If these were breeder reactors, each with 1-2 tons of plutonium in their cores, they could become prime targets for terrorists!

We summarize the problems associated with nuclear power plants. Replacing coal-fired power plants with light-water reactors will rapidly deplete our reserves of uranium. It will also exacerbate the storage problem and burden future generations with the guarding of the storage sites. Switching to fast breeder reactors will alleviate the uranium depletion problem, but it will enhance terrorists’ threats and nuclear-weapons proliferation. There is also the problem of decommissioning obsolete power plants, which presently have a life expectancy of 40 years. Reprocessing of nuclear fuel is a messy business that can lead to dispersal of radioactivity. To be fair to the nuclear-power industry, there are safer and cleaner reactors on the drawing boards, but none of them solves all the problems presented by nuclear energy and none has been built.

The so-called “renewable” energy sources—solar, wind, biomass, geothermal, and tide—account for a very small amount of total energy consumption. For example, photovoltaic panels account for only 0.03% of the world’s energy usage. However, photovoltaic use is growing, and the price of a photovoltaic panel is now \$5.00 per watt, but this price can fall with increased demand. Roof units are currently being installed in California at a cost of \$3.00 per watt. My house operates on four kilowatts, so that I could get half my energy requirement from a 2-kW panel for a cost of \$6000. This is what is currently being installed in California. Japan has installed 70,000 solar roofs, the government paying for half the cost and providing low-cost loans for the other half. Excess solar power is returned to the grid. Germany has a similar program.

The Clinton administration introduced a program to place one million solar energy systems on residential and federal buildings by 2010. It included a \$2000 tax credit for solar installation. The Department of Energy runs this program and claims that it is on

schedule, but, as far as I can tell, the \$2000 tax credit is no longer in effect. Solar energy from photovoltaics could be a boon to underdeveloped countries, where home energy needs could easily be satisfied by a 2-kW solar collector. The World Bank has been instrumental in helping provide funds to developing countries for solar programs. Whether this will continue under Paul Wolfowitz, the architect of the Iraq war and the new president of the World Bank, is anybody's guess.

Wind energy is a growing business. In West Texas, there are two wind farms near Snyder and Abilene. Wind energy will undoubtedly grow and can be significant in those parts of the country that have a lot of wind and for which wind turbines are an acceptable addition to the landscape.

Biomass energy, such as turning corn into ethanol, is another use of solar energy, but it is much less efficient than photovoltaic cells and it adds to the global warming problem. There are small projects that use tidal forces and ocean currents to produce energy. For those areas of the world, such as Iceland, that have geothermal vents, geothermal energy is cheap and dependable.

Finally, dependence on foreign oil and global warming can be ameliorated by improving the efficiency of how we currently consume energy. It is possible to design and build more energy efficient buildings. The judicious placement of power plants and use of more efficient transmission grids can save energy. Corporate average fuel-economy or CAFE standards for vehicle fuel efficiency have reduced the nation's reliance on oil and reduced carbon dioxide emissions. Motor vehicle fuel efficiency can be improved even more as is evidenced by Toyota's Prius.

I have tried to give an overview of the energy problems faced by this nation and the world. I have not endorsed any particular energy solution. Rather I have presented the energy alternatives and the problems created by these alternatives. Global warming can be addressed by switching to technologies that do not produce greenhouse gases. These include nuclear energy, wind energy, and solar energy. Nuclear energy has its own unique problems, which may be insoluble. It is clear that the real solution to the energy problem lies in a combination of technologies.

I now welcome your comments and questions.

## Energy, Population, and Religion

### Part Two: Population and Religion

From 1900 to 2000, world population grew from 1.6 billion to 6.1 billion persons. However, while world population increased close to 4 times, world real gross domestic product (GDP) [actual output of goods and services] increased 20 to 40 times, allowing the world not only to sustain a fourfold population increase but also to do so at vastly higher standards of living.

United Nations Population Division, "World Population Monitoring 2001"

The population controversy is fraught with claims and counter claims. Anyone who ventures into the controversy is open to rebuke and ridicule. Nevertheless, I shall attempt to give you an idea of what the controversy is and what it means for the future of the world. The problems posed by increasing population are economic, environmental, moral, and religious. I shall touch on all of these.

The United States Census Bureau and the United Nations Population Division are in agreement that, as of the year 2000, there were six billion people in the world. Up to the year 2000, demographics indicated a world population growing faster than exponential. It took the world until 1825 to reach one billion people. By 1930, there were two billion people in the world. At today's population growth, it will take only 13 to 14 years to add another billion. As shown on the front of your Order of Service, population projections beyond the year 2000 depend on whether the growth rate is high, medium, or low. Based on population trends of the 1990s, the best projection is for a medium growth rate, allowing the world population to level off at about ten billion persons. This is a significant decrease compared with the population growth of the twentieth century. Those who argue for a population catastrophe believe that the high growth rate is the more accurate projection. Those who argue against population planning opt for the medium or low growth rate.

What makes the population argument so contentious are the different segments of society, each pushing its own agenda. The problem is a multifaceted one, involving energy production, technology, global warming, economics, ecology, religion, and moral values. These are all intertwined, so that ignoring any one in arriving at a solution to the population problem makes the solution suspect.

Going back to Thomas Malthus in 1798, the question of an optimum population has been an economic one. In Malthus' time, the economy was mainly agrarian, and Malthus worried that population growth, which was greater than the growth of agricultural production, would lead to the collapse of the economy through famine and war. Malthus did not foresee the industrial revolution of the nineteenth century and its accompanying capitalism. The tenets of capitalism were laid down by Adam Smith in the eighteenth century. Smith advocated a laissez-faire, free-market economy. The depression of the 1930s frustrated the advocates of free enterprise and led to the adoption of the economic theories of John Maynard Keynes. Keynes advocated government regulation in the capital markets, but supported the capitalistic system. The capitalistic system depends on economic growth. It is a capitalistic truism that a business, city, or nation either grows or

dies. Any hint of population decline or stabilization is anathema to the capitalistic society.

A Malthusian undercurrent surfaced in the 1960s with the publication of Paul Ehrlich's book, *The Population Bomb*. The draconian proposals that Ehrlich advocated to contain population growth reminds one of George Orwell's *1984* and sharply divided population scholars into pro- and antigrowth elements. The catastrophe that Ehrlich predicted did not occur, as today's opening words attest.

The pro-growth element, as reflected by Human Life International, quotes economists who advocate population increases. Thus Peter Bauer of the London School of Economics has stated that population growth should be seen as a blessing, since it comes about from a decline in mortality. Bauer points out that since the eighteenth century real per capita income has increased more than population growth. The darling of the pro-growth group is the late Julian Simon of the University of Maryland and a Senior Fellow at the Cato Institute. Simon maintained that the larger the world population, the more people there are to solve the economic and environmental problems and the faster we can grow economically. Finally, Gary Becker, winner of the 1992 Nobel Prize in economics, has pointed out that "food is cheaper and more abundant despite fewer acres in the world devoted to farming [because of the] rapid technological progress in agriculture and in the extraction of energy resources."

To sum up the economic argument for increased population growth, I quote from Human Life International: "The historical record shows that population decline is a negative phenomena. It stifles cultural creativity and causes the rate of increase in demand for goods and services to fall and thus it reduces economic opportunity. Demographic decline places a heavy burden on the young who have to support an ever-growing proportion of dependent elderly. With the increased pressure it places on pension funds, demographic decline in developed countries will threaten nation-wide and tax-financed pay-as-you-go pension programs."

Herman Daly, an economist at the University of Maryland and a former economist with the World Bank, takes a different approach. Daly is an ecological economist, as opposed to the mainstream neoclassical economists. Daly argues for a sustainable or steady-state economy in which society moves away from continuous growth toward a developmental economy that develops the scarce resources we already have. There is the example of over-fishing. Once the fish catch was limited by the number of fishing boats. More boats were produced and the fish population dwindled. The solution to the problem is not building more boats, since the fish catch is now limited by the number of fish. The solution to the problem is limiting the fish catch. Daly proposes doing this through economic incentives such as cap-and-trade systems that allocate a scarce resource.

Whereas economists generally favor population growth, provided that technology keeps up in order to satisfy demand, ecologists see a disaster looming. There are already signs of strain in the ecosystem. These include air and water pollution, loss of animal and plant species, climate change, water shortages, deforestation, critical food shortages in selected parts of the world, and a peaking of world oil production. These problems will be exacerbated by an increasing population. Even a static population of 10-12 billion persons, assuming that current population growth can be sharply curtailed in the next fifty years, presents enormous problems, which in turn require enormous technological solutions. Upon comparing the standard of living of the developed countries with the

underdeveloped and developing nations, one wonders if there are enough natural resources in the world to bring the rest of the world up to the standard of living enjoyed in the United States, even if the technological advances are forthcoming.

Human nature being what it is, it may be impossible to control the population of the earth, especially considering the diversity in social, economic, and religious behavior. On the other hand, some people wonder if the earth can ever be “overpopulated.” After all, Nature has ways of self-correcting those systems that begin to overpopulate. For humans, these ways are wars, famine, and disease. How will we know when the world is overpopulated? It seems to me that the world is overpopulated when the ecosystem must be destroyed to support the population, thus degrading the quality of life for all—humans, as well as animals.

Religious beliefs are deeply ingrained in our brains. Indeed, some people believe that there is a God gene that codes for God in our brains. Religious morals and beliefs are often implanted in our minds from earliest childhood. These beliefs are very difficult to change. And it is these beliefs that may present the greatest obstacle to solving the population problem. The Catholic Church is perhaps the best example of a religion that obstinately refuses to acknowledge any overpopulation problem. Protestant evangelical churches are vigorously “pro-life.” Scripture can be quoted showing that God will not allow his people to suffer through overpopulation, because God will always provide. Besides, the Rapture is imminent, so it is not necessary to concern ourselves with the future. At the Resurrection, the faithful will go to heaven, while the rest will burn in hell for eternity, and the earth will be destroyed. The evangelicals tend to be ultra-conservative, free-market types, who advocate “rugged individualism.”

I see nothing in the teachings of Islam or Hinduism that restricts population. Indeed, India’s population has just passed the one billion mark. The Indian government has not made contraceptives available. Islamic fundamentalism prohibits abortions, and contraceptive methods are highly suspect.

There are hopeful signs. In his latest book, *The Death of Life*, Father Sean McDonagh, a Colombian priest, encourages the Catholic Church to revisit its stand on birth control. He says that the battle to save the planet is the most important we can fight, and he accuses the Catholic Church of being silent about environmental threats. In October of last year, the National Association of Evangelicals said that it was every Christian’s duty to care for the planet. Evangelical leaders are meeting this year to develop a position on global warming. According to the evangelical magazine, “Christianity Today,” Christians should take steps to insure that the environment is protected. Fifty-two percent of evangelicals now support environmental regulations. The magazine further states that mainline protestants and evangelicals are uniting to reduce global warming and are supporting the Kyoto Protocol.

Still, the influence of population on the environment is one on which most religions tread lightly, if at all. After all, in Genesis 1:28 God said, “Be fruitful and multiply, and fill the earth...” That is a command that is hard to ignore!

There is progress being made in the world. In Brazil, the Catholic Church has opposed family planning, but the private sector has stepped in to make birth control widely available. One of the world’s poorest nations, Bangladesh, is making steady progress in family planning with strong government support. Despite being an Islamic country, early abortion is allowed. Indonesia is the world’s fourth most populous country,

but the government is investing in family planning, although the Islamic fundamentalists have not allowed abortions. China has had a population-control program for several decades. The birth rate in China is falling, but its population was so large to begin with, that China still adds 12 million people each year.

There are two countries in the world where population is falling. These are Japan and the Russian Federation. A falling population carries with it problems of an aging population with fewer young people to provide an adequate work force. These nations are sometimes used by the pro-population groups as arguments why populations should not be reduced, as well as arguments to show that the world population is actually decreasing.

I close on a note of optimism. Attempts are being made to lessen our use of natural resources through technological advances in transportation, home appliances, building construction, and city planning. People are concerned, and there are many bright people working on the problems. There are groups such as Planned Parenthood that advocate birth control, the education of women in underdeveloped countries, and women's rights to control their own reproductive processes. It is really education and the elimination of poverty that are central to controlling the population of the underdeveloped countries.

I have attempted to convey some idea of the magnitude of the population problem. There is no one solution. Our best hope is a worldwide recognition of the problems that arise from overpopulation and a desire by some of our best minds to solve these problems.

I have allowed time for questions and discussion of this important topic.

## Origen and Celsus

And I know not, my pious Ambrosius, why you wished me to write a reply to the false charges brought by Celsus against the Christians, and to his accusations directed against the faith of the Churches in his treatise; as if the facts themselves did not furnish a manifest refutation, and the doctrine a better answer than any writing, seeing it both disposes of the false statements, and does not leave to the accusations any credibility or validity.

Origen, *Contra Celsum*, Preface, Book I

The third-century Church father, Origen, is arguably the most influential of the early philosophers of the Christian Church. Origen's chief antagonist was a philosopher by the name of Celsus. We know of the writings of Origen and Celsus only indirectly. Most of what we know about the life of Origen comes from the writings of Eusebius of Caesarea, who was a confidant of Constantine the Great in the fourth century. All that we know of Celsus comes from Origen. It is perhaps ironic that Origen, the man who most detested the beliefs of Celsus, should be the one to give us the most insight into the philosophy of Celsus. The relation of Origen to Celsus is somewhat akin to the relation of C. S. Lewis, the Christian, to Sigmund Freud, the atheist.

Origen was born in Alexandria about 185. Origen's father, who was a Christian, was martyred when Origen was seventeen years of age. Before his father's death, Origen had been exposed to the Greek philosophers as well as to the Christian Scriptures. After his father's death, Origen was thrown onto his own resources and had to survive by his wits. Origen set up a small school "for elementary instruction in the faith." Origen so impressed Demetrius, the bishop of Alexandria, that Origen was given charge of the catechetical school at Alexandria when only eighteen years of age. Origen and his bishop Demetrius had a troubled relationship. In 229, at the urging of friends, Origen was ordained a presbyter at Caesarea without consulting his bishop. This outraged Demetrius, who complained to the bishop of Rome. Origen was forced to move to Caesarea, where he remained until his death in 254.

It is thought that Celsus composed his work during the reign of Marcus Aurelius in the late second century. From Origen, we know that Celsus was an Epicurean, and we must consider Celsus' remarks and Origen's replies with this in mind. Epicureanism is often associated with the hedonism of Aristippus in the fourth century BC. However, the hedonism of Epicurus was not of the sensual type advocated by Aristippus. Epicurus maintained that it is freedom from pain that defines pleasure, and that it is human nature to seek pleasure. Epicurus stressed the importance of intellectual pleasures over sensual ones. Epicureanism was much more than the seeking of pleasure, however. The tenets of Epicureanism included a philosophy of the world, of what constitutes knowledge, the physics of the universe—especially the atomic theory—the function of gods in human affairs, and theories of the soul and free will. The Epicureans rejected Plato's concept of a soul and rejected any notion that gods can influence earthly events. The Epicureans maintained that, at death, the soul dies along with the body, and there is no afterlife. Celsus used these ideas to attack Christianity, and Origen believed that it was his job to refute the attacks of Celsus.

Celsus had called Christianity a secret belief system along the lines of the Greek mysteries. In refuting this, Origen says, "That there should be certain doctrines, not made known to the multitude, that are revealed after the exoteric ones have been taught, is not a peculiarity of Christianity alone, but also of philosophic systems in which certain truths are exoteric and others esoteric...Therefore, in the comparison which he institutes between the procedure of the initiators into the Grecian mysteries and the teachers of the doctrine of Jesus, he does not know the difference between inviting the wicked to be healed and initiating those already purified into the sacred mysteries!" Continuing, Origen writes, "And when those who have been turned towards virtue have made progress, and have shown that they have been purified by the word, and have led as far as they can a better life, then and not before do we invite them to participation in our mysteries." Quoting Paul, Origen writes, "For we speak wisdom among them that are perfect." This refers to Paul's first letter to the Corinthians, where Paul says, "We impart a secret and hidden wisdom of God." These words of Origen are important for two reasons. First, they show that the Christians were practicing a mystery religion, and second, they show that the mysteries were being practiced even as early as the time of Paul. Origen tells us further on that "whoever is pure not only from all defilement, but from what are regarded as lesser transgressions, let him be boldly initiated in the mysteries of Jesus, which properly are made known only to the holy and the pure." It is clear from Origen's words that even the earliest Christ cult was a mystery religion with its inner and outer mysteries.

Celsus accuses the Christians of taking the Scriptures literally rather than allegorically. Origen counters this by saying that the Scriptures have been interpreted allegorically and writes, "If Celsus had read the Scriptures in an impartial spirit, he would not have said that 'our writings are incapable of admitting an allegorical meaning.' For from the prophetic Scriptures, in which historical events are recorded, it is possible to be convinced that the historical portions also were written with an allegorical purpose, and were most skillfully adapted not only to the multitude of the simpler believers, but also to the few who are able or willing to investigate matters in an intelligent spirit." On this point, at least, Origen and Celsus are in agreement. Origen strengthens his allegorical interpretation of the Scriptures by praising the Jewish philosopher, Philo of Alexandria. When referring to the writings of Celsus, Origen writes, "He seems to refer in these words to the works of Philo, or to those of still older writers, such as Aristobulus. But I conjecture that Celsus has not read their books, since it appears to me that in many passages they have so successfully hit the meaning that even Grecian philosophers would have been captivated by their explanations; for in their writings we find not only a polished style, but exquisite thoughts and doctrines, and a rational use of what Celsus imagines to be fables in the sacred writings." In Celsus' defense, I mention that Celsus wrote in the second century, when the literalist Christian Church, led by Ignatius, Irenaeus, and Tertullian, was dominant. Later Church fathers, especially those from Alexandria espoused an allegorical interpretation of Scripture.

In his writings, Origen indicates that he is an admirer of the Greek philosophers, especially Plato. Being an Epicurean, Celsus is not especially impressed with Plato and those philosophers who support Plato. We see this difference in philosophy expressed throughout Origen's works. In reply to Celsus, who says that the Christians have been won over by vain hopes, Origen writes, "...they also are won over by vain hopes who

have accepted the doctrine of Pythagoras and Plato regarding the soul, that it is its nature to ascend to the vault of heaven, and in the super-celestial space to behold the sights that are seen by the blessed spectators above... And do not suppose that it is not in keeping with the Christian religion for me to have accepted, against Celsus, the opinions of those philosophers who have treated of the immortality or after-duration of the soul; for, holding certain views in common with them, we shall more conveniently establish our position, that the future life of blessedness shall be for those only who have accepted the religion which is according to Jesus, and that devotion towards the Creator of all things which is pure and sincere, and un-mingled with any created thing whatever.” Origen is clearly saying that the philosophies of Pythagoras and Plato support the Christian religion in that the soul will have immortality in the afterlife.

Celsus claims that the simplicity of the language in the Scriptures cannot match the reasoned discourse of the philosophers. Origen counters that the language had to be simplistic in order to win over the multitude of people and allow each one to “ascend as far as he could towards the comprehension of those mysteries that are contained in these apparently simple words.” It is important for an understanding of early Christianity to listen carefully to the words of Origen concerning what was written in the Gospels and what was omitted from the Gospels. Quoting from Origen, “And it is related of Jesus, who was greater than all these, that He conversed with His disciples in private, and especially in their sacred retreats, concerning the Gospel of God; but the words which He uttered have not been preserved, because it appeared to the evangelists that they could not be adequately conveyed to the multitude in writing or in speech. And if it were not tiresome to repeat the truth regarding these illustrious individuals, I would say that they saw better than Plato what things were to be committed to *writing*, and how this was to be done, and what was by no means to be written to the multitude, and what was to be expressed in *words*, and what was not to be so conveyed.” What was to be expressed in words constituted the inner or esoteric Jesus mysteries, and what was to be expressed in writing constituted the outer or exoteric Jesus mysteries. This shows up in the Gospels when Jesus asks his disciples in *Mark*, “Having eyes do you not see, and having ears do you not hear?”

Origen thought deeply about philosophy and tried to understand Greek philosophy from a reading of the Scriptures and vice versa. He was drawn to natural philosophy and sought to understand the universe within the context of the Scriptures and Greek science. In these efforts, Origen often clashed with Celsus. They disagreed over the age of the Earth, the creation of life, the evolution of life, and the nature of the Cosmos. Concerning the age of the Earth, Origen opted for a young Earth. He argued against Celsus, who maintained an Earth so old that there has never been a time when it did not exist, and hence it is “uncreated.” Origen writes, “Celsus, from a secret desire to cast discredit upon the Mosaic account of the creation, which teaches that the world is not yet ten thousand years old, but very much under that... intimates his agreement with those who hold that the world is uncreated. For, maintaining that there have been, from all eternity, many conflagrations and many deluges, and that the flood which lately took place in the time of Deucalion is comparatively modern, he clearly demonstrates to those who are able to understand him, that, in his opinion, the world was uncreated.” One wonders whether Celsus got his ideas from Epicureanism or directly from a study of nature, which told him that the Earth had to be of ancient origin.

We know that Celsus was an observer of nature, especially ants and bees. Origen quotes Celsus as saying that “if men appear to be superior to irrational animals on this account, that they have built cities, and make use of a political constitution, and forms of government, and sovereignties, this is to say nothing to the purpose, for ants and bees do the same. Bees, indeed, have a sovereign, who has followers and attendants; and there occur among them wars and victories, and slaughterings of the vanquished, and cities and suburbs, and a succession of labours, and judgments passed upon the idle and the wicked; for the drones are driven away and punished.” Concerning ants, Celsus has written, “And when they meet one another they enter into conversation, for which reason they never mistake their way; consequently they possess a full endowment of reason, and some common ideas on certain general subjects, and a voice by which they express themselves regarding accidental things.” This reminds one of the observations of the entomologist E. O. Wilson, who has solved some of the mysteries of ant behavior, but who admits that there is still much that is unknown about how ants communicate.

Celsus claimed that the great diversity of life on Earth occurred by chance. This is, of course, the main theme of Darwin’s theory of evolution. It is being advocated by Celsus 1700 years before Darwin! I quote from Origen: “Let Celsus then say distinctly that the great diversity among the products of the earth is not the work of Providence, but that a certain fortuitous concurrence of atoms gave birth to qualities so diverse, and that it was owing to chance that so many kinds of plants, and trees, and herbs resemble one another, and that no disposing reason gave existence to them, and that they do not derive their origin from an understanding that is beyond all admiration. We Christians, however, who are devoted to the worship of the only God, who created these things, feel grateful for them to Him who made them, because not only for us, but also for the animals which are subject to us.”

We have a direct quote from Celsus concerning the creation of life: “All things, accordingly, were not made for man, any more than they were made for lions, or eagles, or dolphins, but that this world, as being God’s work, might be perfect and entire in all respects. For this reason all things have been adjusted, not with reference to each other, but with regard to their bearing upon the whole. And God takes care of the *whole*, and (His) providence will never forsake it; and it does not become worse; nor does God after a time bring it back to himself; nor is He angry on account of men any more than on account of apes or flies; nor does He threaten these beings, each one of which has received its appointed lot in its proper place.” Celsus is saying that all life is interconnected. In modern parlance, we would say that all life is genetically related. Origen replies to this by writing, “Let us then briefly reply to these statements. I think, indeed, that I have shown in the preceding pages that all things were created for man, and every rational being, and that it was chiefly for the sake of the rational creature that the creation took place... But it follows from the doctrine of Celsus, that if the Cosmos be God, all that is in it is divine, being parts of the Cosmos. Now, according to this view, animals, as flies, and gnats, and worms, and every species of serpent, as well as of birds and fishes, will be divine—an assertion that would not be made even by those who maintain that the Cosmos is God.” Origen is saying that life is not interconnected—in other words, there is no genetic relation between Man and animals.

Origen does not know exactly where Heaven is, but he is well aware of the Ptolemaic system that had recently come into vogue in the second century. Origen writes, “The

Scriptures that are current in the Churches of God do not speak of “seven” heavens, or of any definite number at all, but they do appear to teach the existence of “heavens,” whether that means the “spheres” of those bodies which the Greeks call “planets,” or something more mysterious.” Origen wanted to understand the mysteries of the heavenly spheres. Origen believed that when “the saints shall have reached the celestial abodes, they will clearly see the nature of the stars one by one, and will understand whether they are endued with life, or their condition, whatever it is. And they will comprehend also the other reasons for the works of God...For He will explain why that star was placed in that particular quarter of the sky, and why it was separated from another by so great an intervening space; what, e.g., would have been the consequence if it had been nearer or more remote; or if that star had been larger than this (one), how the totality of things would not have remained the same, but all would have been transformed into a different condition of being... what difference may exist among them, we cannot even conjecture by our feeble intellect.” I think that Origen would be truly amazed at the photos obtained by the Hubble observatory.

Origen was interested in the beginnings of the universe, and he had his own ideas concerning the Big Bang! In answer to certain “heretics,” Origen writes, “But this is the objection which they generally raise: they say, ‘If the world had its beginning in time, what was God doing before the world began? For it is at once impious and absurd to say that the nature of God is inactive and immoveable, or to suppose that goodness at one time did not do good, and omnipotence at one time did not exercise its power.’ Such is the objection which they are accustomed to make to our statement that this world had its beginning at a certain time, and that, agreeably to our belief in Scripture, we can calculate the years of its past duration. To these propositions I consider that none of the heretics can easily return an answer that will be in conformity with the nature of their opinions. But we can give a logical answer in accordance with the standard of religion, when we say that not then for the first time did God begin to work when He made this visible world; but as, after its destruction, there will be another world, so also we believe that others existed before the present came into being. And both of these positions will be confirmed by the authority of Holy Scripture...By these testimonies, it is established both that there were ages before our own, and that there will be others after it. It is not, however, to be supposed that several worlds existed at once, but that, after the end of this present world, others will take their beginning.”

It is a theme of Origen that many worlds existed in the past and that many will exist in the future. Origen may have been influenced by Epicurus in this regard. For Epicurus wrote to Herodotus, “Moreover, there are an infinite number of worlds, some like this world, others unlike it. For the atoms being infinite in number, as has just been proved, are borne ever further in their course. For the atoms out of which a world might arise, or by which a world might be formed, have not all been expended on one world or a finite number of worlds, whether like or unlike this one. Hence there will be nothing to hinder an infinity of worlds.”

In many respects, Celsus unfairly condemned the Christian teaching, but when it came to natural philosophy Celsus was way ahead of Origen in his understanding of the world and the Cosmos. Origen was the greatest thinker of his time when it came to the philosophy of the Scriptures, but he allowed his view of natural philosophy to be blinded by his devotion to the Scriptures. Both men were giants of intellect. It is interesting to see

how Origen reacted to Celsus, and how Celsus attacked the Christians for their beliefs that ran counter to the beliefs of the Epicureans. Our thanks go to Origen for preserving the writings of Celsus, the originals of which have been destroyed by the Christians. Origen was no dummy, and I believe that, given today's empirical evidence about nature, Origen would change many of his views.

I invite your comments and questions.

## What Is Our Purpose?

Out of the depths of space it roars like a mighty express—destination infinity—purpose unknown. Its gigantic nebulae spiral into the bleak, dark nothingness of eternity and from within there calls out in ever-increasing tempo the questions: What am I? What is my purpose? For an answer, there is merely eerie silence as the universe hurtles noiselessly onward into space.

*The Immortal Self*, 2001

Thus begins an essay that I wrote in 1954 during my junior year in college. In that year, I was seeking to understand my place in the universe. I thought that I had found the answer and wrote the essay to solidify my thoughts. I buttressed my ideas with examples from paleontology and the liberal use of Darwin's theory of evolution. The question, "What am I?," signifies a plea by nature and, indeed, by the human species to understand its place in the cosmos. It transcends our present society and goes back to the hunter-gatherer *Homo sapiens* of prehistory, when it was believed that the magic of the shaman could answer our deepest questions. Then, as agriculture flourished in the Fertile Crescent, beginning about ten thousand years ago, and cities were established in Mesopotamia, the answer to this question was given by the priests. The priests were the ones who scanned the heavens for signs of when to plant, when to harvest, and when to go to war. The answer lay with the gods!

I tried to answer the question, "What am I?," by looking first at the heavens and then at the earth. The heavens appear to be unchanging or what Aristotle termed *Being*. Indeed, Plato and Aristotle considered the ultimate reason in the universe to be unchanging and to be the *Divine Form*. The Divine Form is Being. The earth, on the other hand, was a different matter. Aristotle saw that the earth was continually changing—what Aristotle called *Becoming*. The scientist and philosopher, Ilya Prigogine, recognized Being as the initial state of a system. When the system is disturbed, it reacts immediately by changing its state, a change that Prigogine calls "From Being to Becoming." Prigogine saw rightly that sensitivity to initial conditions, known as the butterfly effect, can lead to chaos, but that it is possible to get order out of chaos. I knew nothing about chaos when I wrote my essay. Indeed, there was no chaos theory at the time. What I did understand is that the heavens were changing, just as the earth was changing. What fascinated me was the change, or what I called the restlessness in nature that characterizes the entire universe. It is this restlessness that is a common thread that runs through the fabric of the universe.

One can pick up this thread on earth, I wrote, by simply "stepping outdoors and studying the various geologic formations and rock strata." I had actually done this and reported it in a term paper on the rock strata of the Arroyo-Seco river for a geology class. Continuing my essay, I mentioned the sea-animal fossils that are now visible in high mountain road cuts and in Arizona deserts. This evidence certainly demonstrates change. Change is evident in the continual pounding of the oceans against the shores, in a hurricane that thunders over the land, and in an avalanche that roars down a mountainside.

I next considered the plant kingdom. It is here that we truly observe the creation of order out of chaos. According to Chris Langton, one of the founders of artificial life, life

exists at the edge of chaos. What this means is that life cannot exist in a static equilibrium situation or in a completely chaotic situation. Langton has used the water example to illustrate his point. Liquid water represents an ordered state compared to gaseous water, which is completely disordered. However, by adjusting the temperature and pressure, it is possible to find that critical state between the ordered liquid and the disordered gas—the fluid state. It appears that a similar critical state between order and chaos is necessary for life.

Creationists or, more recently, intelligent designers, claim that the second law of thermodynamics prevents the formation of life. However, these people take a narrow view of the second law. Broadly interpreted, life does not violate the second law, since the overall entropy of the universe still increases. This is where chaos theory comes in. Chaos theory predicts so-called *emergent behavior*. What emerges out of chaos does not violate the second law, but rather reinforces the concept of the second law. Contrary to popular usage, chaos does not mean total disorder and confusion, but rather it represents non-repeatability or Becoming.

I did not appreciate the second law when I wrote my essay. What I did appreciate was the restlessness and movement characterized by the plant kingdom. As I observed, this restlessness and movement is further accentuated in the animal kingdom. I interpreted the term “restlessness” to mean “life.” There is an inherent restlessness in nature that manifests itself in various ways in the inanimate earth, in the plant, and in the animal kingdoms. This restlessness terminates in what we call “life.”

I ended my introduction by visiting the infinitesimal world of the atom and the elementary particles. Could this be the real source of nature’s restlessness and the phenomenon called “life?” I asked whether one could separate mass from energy, since the two are related through Einstein’s famous equation,  $E = mc^2$ . Is it possible that nature is really just a sea of energy out of which mass has crystallized? Does this answer the question, “What am I?”

As I state in my essay, “This then is Nature. Whether the mighty nebulae or the minute particles of matter are considered, Nature is almost beyond the grasp of human imagination; yet man looks around at his environment and with one glance beholds these things, or at least a portion of them, and there appears to be no mystery. Yes, this indeed is Nature — purpose as yet unknown.”

Next, I take the reader on an imaginary journey back in time through the Cenozoic and Mesozoic eras to the Ordovician period of the Paleozoic era, some four hundred million years ago. The term “Paleozoic” refers to the very ancient existence of life forms. We glimpse life as the paleontologist has described it. In the geologic strata known as Ordovician, we find thin stemmed, rootless water plants, algae, clams, corals, starfish, jellyfish, and trilobites. Mountain-building activity characterizes the end of the eighty-million-year Ordovician period. A break in the geologic record signifies the next period—the Silurian period.

The Silurian period witnesses land plants with roots. Trilobites are predominant, but some new species, such as scorpions and hammer-headed fish, appear. Passing into the Devonian period, we observe the appearance of mosses, horsetails, and ferns—the beginning of the great fern forests of the Upper Devonian period. Fish containing an axial skeleton have appeared, as has the horseshoe crab.

In the Upper Devonian and Lower Carboniferous periods are found the huge fern forests, which thrive in a worldwide mild climate. This is the lush plant life that flourished into the Carboniferous period and that has given us our sources of oil and coal. In the Upper Carboniferous period, we see the first reptiles.

Moving on through the Triassic period of the Mesozoic era, we find a plethora of animal life including turtles, ichthyosaurs (ancestors of dolphins), phytosaurs (ancestors of crocodiles), and mosasaurs (giant lizards). The twenty-five million years of the next period, the Jurassic, witness the most bizarre life the earth has ever known. I refer to this period as the mightiest but perhaps most futile attempt of nature to understand herself. I quote from my essay:

“As the sun rises on a typical Jurassic day, the early morning silence ends as two conifer trees crash to the ground before the onrush of a huge, fifty-foot-long creature flashing two rows of gleaming, scissors-like teeth. This creature can easily reach the topmost branches of a thirty-foot conifer as it moves along in a semiverticle position on its two muscular rear legs. Its front legs, on the other hand, are almost useless, since they are too short to reach the creature's mouth. This creature, one of the many dinosaurs of the time, continues on through the fern forest until it reaches a river. Here the dinosaur stops for water, but a loud noise upstream frightens it, and the dinosaur awkwardly rumbles off into the jungle. The noise upstream was made by a group of powerful-looking dinosaurs. These creatures, called sauropods, spend most of their time in the water because of their tremendous size, which is a deterrent to land movement. Weighing from fifty to sixty tons, with a body length of ninety feet in some cases, these quadrupedal vegetarians have a brain case that measures only two inches by four inches.

“Other large dinosaurs, which have come down to the stream for an early morning drink and to nibble the tender vegetation growing alongside the riverbank, are the ornithopods, the stegosaurus, the ankylosaurus, and the ceratopsia. The ornithopods are duckbilled dinosaurs, which are thirty to thirty-five feet in length with webbed feet. The stegosaurus are thick-skinned, "armored" dinosaurs with a brain smaller even than the sauropods. The smaller, turtle-like animals with a clubbed tail are the ankylosaurus, and the hippopotamus-like creatures with the large neck armor and two projecting horns are the ceratopsia. As the river nears the ocean, a still more fantastic sight greets us—in the air, flying reptiles can be seen. These creatures have a lizard-like body with a wingspan from a few inches to twenty-five feet. The mighty dinosaurs of this period combined with the flying reptiles soaring overhead do indeed come together to provide the most fantastic sight Earth has yet beheld.”

In the Upper Jurassic period, the dinosaurs became extinct. The next era, the Cenozoic, which began about sixty million years ago, is sometimes called the Era of Mammals. The mammals divided into the flesh-eating carnivores and the hoofed vegetarians. The fossil record of this era is rich, enabling the evolution of mammals, such as the ancestors of dogs, cats, horses, and elephants, to be tracked.

It is generally accepted that the hominid-chimpanzee split occurred between five and seven million years ago. As I wrote in my essay, “somewhere in the mists of time, Nature, always striving to discover herself, to express herself, with that always-present restlessness, seized onto a genetic mutation that somehow told her that this is what she was striving for on this earth. Thus, after billions of years, Nature had found—on this

planet at least—that for which she was striving, and a species capable of higher intelligence rose humbly from the ranks of the lesser animals.”

As I finished my essay, I was confident that I had answered the question, “What am I?” The question, “What is my purpose?” still remained. I posited that only intelligent life could answer that question. I noted that the history of the earth shows simple forms of life evolving to higher and more complex forms of life. I finished my essay by writing: “The geologic and paleontologic records indicate that, from an inert world, the restlessness that characterizes Nature manifested itself into higher forms of life — as a general rule into forms of life that had a better chance for the development of the brain. This then is the key. Since all evidence indicates that Nature is striving toward the attainment of greater intelligence, man's purpose on earth must be the unlocking of Nature's secrets. Man is the ultimate tool that Nature has devised in an effort to understand herself.”

These were my early ideas about our purpose on this earth. The question immediately arises as to the definition of Nature in this essay. I defined Nature as being composed of all the cosmos. But is there something in the cosmos that directs human evolution—something that gives a purpose? If so, this something can be called God. Or should we realize that the universe exists on the edge of chaos. In this case, the universe needs no intelligent designer, since chaos, itself, leads to emergent phenomena. In this case, chaos *is* God. This harkens back to early Greek mythology, when there was Chaos, from which all the earth and the heavens came into existence. The children of the earth and the heavens were the twelve Titans, who gave birth to the Olympian gods.

The idea that maybe life just naturally emerges from Nature, may have begun in 1970 with John Conway's Game of Life in the *Scientific American* magazine. Chris Langton got hooked on the Game of Life when he got a computer program for the game from friends at MIT. Chris Langton was a free spirit, a member of the hippie community during the Vietnam War. He intuitively felt that there was something important in this game—a unity that could reveal the mechanism of evolution. According to Mitchell Waldrop, in commenting about Langton in his book, *Complexity*, “And if he could only learn to look at that unity in the right way, if he could only abstract its laws of operation into the right kind of computer program, then he would have captured everything that was *important* about evolution.” Waldrop posits that Langton was trying to understand evolution in the same way that the artificial intelligence people at the Santa Fe Institute were trying to understand neurophysiology.

A light turned on for Langton when he discovered John von Neumann's book, *The Theory of Self-Reproducing Automata*. His interest was further piqued when Stephen Wolfram published his seminal studies on cellular automata in the mid 1980s. Wolfram was a *Wunderkind*, who made a so-called quantum leap in our understanding of cellular automata. Cellular automata act much like DNA. The DNA contains instructions for the construction of new cells, while at the same time passing along the instructions for future replication. The automata are made up of cells that contain the information to build new cells. The new cells continue to replicate based on the initial information. It was this work with cellular automata that convinced Langton that life and evolution could be described by a computer. This, in turn, has led to ideas of emergent phenomena.

My essay questioned our purpose in life. Was God using us to solve the mysteries of Nature? Was Nature clueless as to what was going on and was seeking a higher intelligence to work it all out? Where exactly does intelligence exist in Nature? Does it

exist in the interstellar dust and in the billions and billions of galaxies, as Carl Sagan was fond of saying? Or does it exist in the microscopic world of atoms and DNA molecules? Does it exist at the edge of chaos?

To answer this question, we might try thinking outside the God box. Just for the moment, put aside all ideas of gods. Then ask yourself about the existence of life and about our purpose in the universe. This requires deep thought. These are not questions that can be easily answered, perhaps revealing a limitation on our ability to answer such deep questions or perhaps only a limitation in our current knowledge. Emergent phenomena provide one avenue to approach these questions.

The easy answer lies inside the God box. Paul Davies is the darling of the Templeton Foundation and a recipient of its prize for proving the existence of God. In his book, *The Cosmic Blueprint*, Davies writes: “The very fact that the universe *is* creative, and that the laws have permitted complex structures to emerge and develop to the point of consciousness—in other words, that the universe has organized its own self-awareness—is for me powerful evidence that there is ‘something going on’ behind it all. The impression of design is overwhelming. Science may explain all the processes whereby the universe evolves its own destiny, but that still leaves room for there to be a meaning behind existence.” In his book, *The Mind of God*, Davies is more direct: “I cannot believe that our existence in this universe is a mere quirk of fate, an accident of history, an incidental blip in the great cosmic drama. Our involvement is too intimate. The physical species *Homo* may count for nothing, but the existence of mind in some organism on some planet in the universe is surely a fact of fundamental significance. Through conscious beings the universe has generated self-awareness. This can be no trivial detail, no minor byproduct of mindless, purposeless forces. We are truly meant to be here.”

It may be a meaningless question even to ask about our purpose in the universe. It suggests that some divine intelligence has placed us here for a purpose. Whether it is emergent phenomena or some innate drive in Nature, I intuitively feel that there is a purpose. Being a scientist, I believe that our purpose is to understand nature. I’m sure that the artists and humanists among us will disagree with me on this point. However, most religions seek to understand what we now call the scientific view of nature. Thus, we have the Navajo creation stories. In Genesis, we are told about the creation of the heaven and the earth—a scientific topic. We are told about the appearance of the first man—a scientific topic. Early peoples were intensely interested in understanding nature and they expressed this in their myths and their art. The evolutionary history of the earth from simple forms to more complex forms of life suggests some underlying purpose. Whether that purpose is the result of God, physical laws, or emergent phenomena, I leave it to you to decide.

I hope that I have given you some “food for thought,” and I now encourage you to share your questions and comments with us.

### The Sunni/Shiite Split in Islam

You will become the government until you get a new government. You are going to be the proud owner of 25 million people. You will own all their hopes, aspirations and problems. You'll own it all. It's going to suck the oxygen out of everything.  
Colin Powel to George Bush before the Iraq invasion—Bob Woodward, *Plan of Attack*

Before I discuss the Islamic religion in Iraq, I must make a disclaimer. I am not an authority in the Islamic religion, the history of this religion, or in the pronunciation of Arabic names. Nevertheless, I believe that a discussion of the part played by Islam in the war in Iraq and in the so-called War on Terrorism is important and deserves our attention. I shall treat this topic to the best of my ability.

Two months before President Bush ordered the invasion of Iraq, the president met with three Iraqi Americans. The three described what they thought would be the situation in Iraq after the fall of Saddam Hussein. They mentioned the animosity between the Sunnis and the Shiites. The president was clueless. The three spent the major part of the meeting with President Bush explaining the difference between Sunnis and Shiites.

In order to appreciate the present-day situation in Iraq, it is essential that the history and culture of the Sunnis and Shiites be understood. With Muhammad's death at Medina in 632, the defining period of the *rashidun* (or the rightly guided ones) began. This is the period that has defined Islam to the present day.

From the very beginning of the *rashidun*, the line of succession was in dispute. Some of Muhammad's followers thought that the succession should be a bloodline. Muhammad had no living sons; his closest living male relative was Ali ibn Abi Talib, otherwise known as Ali, who was Muhammad's cousin and son-in-law. Other followers of the Prophet thought that an older man should be the leader; they favored Abu Bakr, Muhammad's boyhood friend and father of Muhammad's favorite wife Aisha. Abu Bakr was chosen as the first caliph to the chagrin of Ali's supporters.

Bakr was succeeded by Umar ibn al-Kattab, known as Umar I. Umar was another father-in-law of Muhammad, who had married Umar's daughter Hafsa. As with Bakr, Umar was not a blood relative of Muhammad. Under Umar, the Muslims defeated the Persian army in 637, captured Jerusalem in 638, and extended their control to Syria, Palestine, and Egypt by 641.

Umar died in 644, and the next caliph was Uthman ibn Affan, an early convert to Islam and a son-in-law of Muhammad. Like Muhammad, Uthman belonged to the Quraysh tribe, but to a different clan, the Umayyad merchant clan. Under Uthman, the Muslims expanded their empire to Cyprus, to what is now Libya, to Armenia, the Caucasus, Iran, Afghanistan, and what is now southeastern Pakistan. However, the military became discontented. The richest military wanted to establish estates in the captured territories, especially in the lush area of southern Iraq, site of the mythical Garden of Eden. Uthman prohibited this as being contrary to Islam. It did not go unnoticed that Uthman gave the most prestigious posts in the government to his own Umayyad family. Some of these were the children of Abu Sufyan, who had led attacks against Muhammad at Medina. Muhammad's followers were further alienated when Uthman issued an official text of the Quran, ordering all other versions to be destroyed. Muslims favoring a bloodline succession supported the soldiers' rights against the central

authority. Soldiers from the garrison town of Fustat, at the head of the Nile, assassinated Uthman in 656 and declared Ali the new caliph.

The assassination of Uthman was abhorrent to many Muslims, since he had been a friend of Muhammad as well as Muhammad's son-in-law. These Muslims thought that Ali should punish those responsible for Uthman's assassination. Among them was Aisha, the widow of Muhammad. Ali, however, was between the proverbial rock and a hard place. On the one hand, he could not condone Uthman's murder, but on the other hand he could not punish the troops who supported him. What to do?

Aisha encouraged her supporters to form a stronghold at Basra in southern Iraq. Ali led his troops to Basra, where he defeated Aisha's supporters in 656. Ali then moved his headquarters from Medina to Kufa, south of Baghdad. This action initiated a five-year civil war between the supporters of Ali and the Umayyad clan.

The head of the Umayyad clan was one Muawiyyah, the governor of Syria with headquarters at Damascus. To avenge Uthman's death, Muawiyyah engaged Ali's forces in 657. The two sides negotiated a settlement at Siffin in Syria in 657 to decide whether Uthman had been unjustly killed. Ali lost the negotiation. The situation at this point is confused. Some say that Ali accepted the decision. Others say that Ali rejected the decision and tried to resume the battle. In any event, Muawiyyah declared himself caliph in Jerusalem in 658.

Ali's more radical supporters broke ranks with Ali. These dissidents became known as *kharajis* or seceders. Ali's forces attacked the seceders, killing many of the original leaders. However, the seceder movement grew, as dissident movements will. The Kharajite movement was a fundamentalist movement; it wanted leaders who were committed and religious. The movement opposed both the supporters of Ali and the Umayyad dynasty. Ali was murdered by the Kharajites in 661. Ali's supporters tried to promote Ali's son Hassan to the caliphate, but Muawiyyah persuaded him not to accept. This ended the civil war and the period of the *rashidun*.

The supporters of Ali, wishing the caliphate to revert to Ali's descendants split with the other Muslims. The supporters of Ali became known as Shia or Shiites. Those who backed the Umayyad dynasty became known later as Sunnis. Today there exist about one-half million Kharajites, living mainly in Africa. They have greatly influenced the fundamentalist Wahhabi movement in Saudi Arabia.

Muawiyyah ruled until his death in 680. Muawiyyah had arranged to have his son Yazid replace him as caliph. Yazid became caliph, but there was immediate resistance from the Shia in Kufa. The Shia wanted Hussein, Ali's second son and Muhammad's grandson, to be caliph. On the plain of Karbala, near Kufa, Hussein and his followers were massacred by Umayyad troops. It is reported that Hussein was the last to die, holding his infant son in his arms. This massacre united the Shia even more. Since that time, a city, Najaf, has grown up at the burial place of Ali. Najaf and Karbala have become Shiite Islam's two holiest places.

Yazid died in 683. His death was followed by another civil war, lasting until 685. In 685, Abd al-Malik became caliph and managed to stabilize the empire. Arabic replaced Persian as the official language, there was Islamic coinage, and the Dome of the Rock was completed in Jerusalem in 691. The Umayyad dynasty continued until 750. During this time, the empire was extended as far west as Spain. The expansion of the empire had brought with it social and economic problems, which were not easily solved by the

Umayyad dynasty. In particular, it was difficult for the Umayyads to incorporate non-Arab Muslims into the social structure as dictated by Islam. With the help of the Shiites, the Abbasid clan, which counted Abbas, an uncle of Muhammad, among its members, defeated the Umayyad clan in battle in Iraq in 750. The Abbasids moved the Muslim capitol from Damascus to Kufa and then, later, to Baghdad. The Abbasid caliphs made Baghdad into another Ctesiphon and ruled like Persian kings. In the reign of Caliph Harun al-Rashid, between 786 and 809, anyone coming into the presence of the caliph had to prostrate himself before the caliph and kiss the ground on which the caliph walked. The caliph's army was made up of Persian mercenaries, who had helped the Abbasids get power. The Abbasidian Empire ushered in the golden age of Islamic scholarship.

During the Abbasidian reign, a body of Islamic law, called the Shariah, was written to govern Muslim life. The Shariah is based on (1) the Quran, (2) the Sunnah (sayings of Muhammad), (3) the consensus of jurists, and (4) reasoning by analogy. Along with the Islamic law arose Sunni Islam. It gets its name from Sunna or the way as shown by Muhammad. Sunni Islam began in the ninth century as a reaction to early schismatic movements, such as the Kharajites, Mutazilites, and Shias. Thus, the Sunnis reacted to the extreme conservatism of the Kharajites, to the liberalism of the Mutazilites, and to the succession espoused by the Shiites. The Sunnis respect all four original caliphs.

The Shiites maintain that only the descendants of Ali have authority. They have kept track of these descendants, who are called imams or leaders. There is some confusion about these imams. Some Shiites claim twelve historical imams, while others claim only seven imams. Those who believe that there are twelve imams point to the eleventh imam, al-Hasan al-Askari, who died in 873. The eleventh imam had a son, who was five years old when his father died. The birth of this boy had been concealed to protect him from the Sunni authorities. The Shia believe that the Prophet had foretold of this boy, the twelfth imam. Legend has it that the boy, Muhammad al-Mahdi, went into hiding in 878 in a cave. A shrine, the Askariya Shrine, has been built over this cave in Samarra, north of Baghdad. It is believed that the twelfth imam will emerge from the cave to usher in the Judgment Day. This shrine is the Golden Mosque and is one of the holiest of Shiite shrines. Today's Shia imams, who operate under the authority of the twelfth imam, have absolute political and religious authority. The Shia imams in Iraq have often defied the authority of Sunni leaders in Baghdad. In Iran, the Shia imams collect a tax that gives them immense wealth and power.

Much has transpired since the fall of the Abbasidian Empire in 1258. Conflicts have raged across the areas of what are now Iraq, Iran, and Syria, and many diverse peoples have been converted to Islam. This recent history *is* important for an understanding of the tragic events unfolding in Iraq today, but the basic religious struggles that permeate Iraqi society today can be traced to early Islamic history and the formation of the Sunni and Shiite sects.

These recent struggles have been documented by Peter Galbraith in his book, *The End of Iraq*. Galbraith was a senior advisor to the Senate Foreign Relations Committee, where he helped draft reports on the Iran-Iraq War and the plight of the Iraqi Kurds. He was instrumental in getting a safe haven in northern Iraq for the Kurds. He has made many trips to Iraq in his official government capacity. In the remainder of this talk, I shall draw on his observations.

The area around Baghdad has always been a Sunni stronghold, going back to the Abbasidian Caliphate. Sunni roots in Baghdad can even be traced to the Umayyad dynasty. However, the Shia have always been strong in the southern part of Iraq, going back to Ali's victory at Basra. The northern part of Iraq is populated by Kurds, who are mainly Sunnis, but who have had a continuing confrontation with the Baghdad Sunnis. The Kurds accepted Islam when they were conquered by the Arabs in the seventh century. Historically, the Kurds come from the mountains of southwest Asia and speak Kurdish, an Indo-Iranian language that includes a number of different dialects. The Kurds desire independence and are not concerned with the Sunni-Shiite struggle in the south of Iraq.

Since 1968, the government of Iraq has been run by the Sunni-dominated Baath Party. Saddam Hussein, a Sunni Muslim, seized power in 1979, and the country has been ruled by a brutal dictatorship ever since. The Shiites have been marginalized and have suffered numerous atrocities at the hands of the Sunnis. The Sunni-Shia gulf is probably as wide now as it has ever been. This can be traced back to 1991, when the first President Bush, in an off-the-cuff remark, called upon the Shiites to overthrow the government of Saddam Hussein. When the Shiites responded with an uprising, the United States did nothing, and Saddam was quick to retaliate. The retaliation has been described by Galbraith: "Saddam's retribution was swift and terrible. Republican Guard tanks blasted apart ancient city centers. Shiite shrines became battlegrounds and then slaughterhouses as rebels, clerics, and unlucky civilians were massacred. The Republican Guard attached nooses to the gun barrels of their tanks, hanging Shiite men—several at a time—by elevating the gun. As all this took place, American soldiers looked on, many seething with anger because they were not allowed to stop the killings." It is estimated that as many as 300,000 Shiites were massacred. "Why didn't the United States intervene?," you might ask. The answer is geopolitics. Galbraith believes that the administration was afraid of what would happen if the long-term balance of power in the Gulf were disturbed.

Saddam Hussein had forbidden Shia pilgrimages to Karbala, where Muhammad's grandson had been martyred. Shortly after the fall of Saddam, Galbraith joined Shia pilgrims marching to Karbala. They all expressed a determination to take control of the government from the Sunnis. Early on, the Sunnis, even those who opposed Saddam, expressed fear of having the government turned over to the Shiites. These Sunnis formed an insurgency against the Americans and invited in foreign terrorists to fight the Americans and the Shiites. The Shiites, such as those holding allegiance to Moqtada al-Sadr, retaliated by executing Sunnis. Iraq moved from civil law to the Shariah or Islamic law. The new order relegated Sunnis to second-class status.

The Shiites view Iran as a friendly nation. The Grand Ayatollah Khomeini had funded Iraq's largest Shiite party, the Supreme Council for the Islamic Revolution in Iraq, better known as SCIRI. Iraq's most prominent ayatollah, Ali al-Sistani, is an Iranian. The Sunnis, on the other hand, view Iran as an ancient enemy with whom it had recently fought for eight years. Sunnis were further alarmed when Shiites dismantled Iran-Iraq War memorials and prominently displayed pictures of Khomeini.

All the elements for a civil war were in place after the United States invasion of 2003. According to Galbraith, there were "Sunni Arabs bitter at their ouster from positions of power and privilege, and fearful of the future; Shiites insistent that Iraq will be ruled on

their terms; a Sunni belief that the Shiites are traitors bent not only on destroying the Iraq the Sunnis had built, but also on handing the country over to a bitter national enemy; a Shiite belief that many Sunni Arabs were unrepentant supporters of Saddam Hussein who would enthusiastically resume the killing of Shiites if ever again given a chance at power."

According to Galbraith, the civil war was well underway by the middle of 2004. In June, Shiite mosques were bombed, in August, Shia pilgrims were killed in Kufa, the city of Ali's headquarters, and in October, Shia army recruits were murdered. The killing of Shiites continued into 2005 with the most deadly attack being a rocket attack on the Baghdad shrine of the seventh imam, when worshippers were trapped on the Aamma Bridge, and 965 of them died in the panic. The Shiite clerics urged restraint, but Shia militia responded by seizing Sunni Arabs off the street and subjecting them to torture and death. A climax of sorts was reached in February 2006, when armed Sunnis stormed the Askariya Shrine in Samarra, planted explosives, and blew the Golden Mosque to smithereens.

As we speak, Sunnis are murdering Shia, and Shia are murdering Sunnis. Body counts ran as high as 110 per day last July, most of these in Baghdad. There is no doubt that fundamentalist elements on both sides are driving the conflict. Official Washington likes to talk about "Iraqis," as though they are one people. They are not one people. They are many disparate groups—the Baghdad Sunnis, the Shiites, the Kurds, the Turkmen, and the secularists. Galbraith notes that Washington has been clueless as to how little these groups have in common. Each has its own agenda, which is driven by centuries of tradition and strife.

The Bush administration has pushed for a secular, democratic government run by Iraqis. When they step up, the United States will step down we are told. Washington envisions a democratic Iraq, where women's rights will be honored. It can be said immediately that the new Iraqi government will not be secular. Whether or not it will be democratic depends on one's definition of "democratic." It will definitely not be run by so-called Iraqis, but rather by a loose confederation of Shiites, Sunnis, and Kurds. President Bush has pleaded by phone with the Shiite cleric Abdul Aziz al-Hakim, the head of SCIRI, the Supreme Council for Islamic Revolution in Iraq, to honor the Sunni Arab negotiators and to honor women's rights. Hakim assured Bush that women's rights are sacred. Bush did not respond. According to Galbraith, "Hakim's idea of women's rights is very different from what Bush wanted, but the president did not know enough to respond to the cleric. The Hakim episode revealed just how little the president and his advisors understood the divisions in Iraqi society more than three years after the invasion."

In conclusion, there is no good solution to the mess in Iraq. Iraq is probably already in a civil war, which is being driven by long-standing religious feuds that began the day Muhammad died. Anyone who dares interfere in the Middle East does so at his peril. At a minimum, anyone interfering in the Middle East should have a good understanding of the Islamic religion and a knowledge of the history of the region. Anything less invites disaster.

I now encourage comments and questions.

## Scripture and Skepticism

The abiding and eternal in Jesus is absolutely independent of historical knowledge and can only be understood by contact with His spirit which is still at work in the world.

*The Quest of the Historical Jesus*—Albert Schweitzer, p. 401

I recently attended a conference on Scripture and Skepticism with the subtitle, “The Uses of Doubt in Biblical and Quranic Studies.” The conference was held January 25 through January 28 on the campus of the University of California at Davis under the auspices of the Committee for the Scientific Examination of Religion, which in turn is under the auspices of the Center for Inquiry. There were a number of prestigious religious and philosophical scholars in attendance. Some of these included John Dominic Crossan, Robert Price, James Robinson, and James Tabor. At this meeting, the Committee for the Scientific Examination of Religion launched a new study called “The Jesus Project.” In an effort to get at the historical Jesus, fifty scholars will meet twice a year for five years, at which time a final report will be produced. The fifty scholars will be chosen from the fields of biblical studies, ancient history, mythography, archeology, classical studies, anthropology, and social history.

The conference lasted three full days with several presentations each day. I cannot cover the entire conference agenda in the time allotted here, but I shall try to hit the high points to give the flavor of the conference.

The conference began with the Old Testament. Marvin Sweeney of the Claremont Graduate School considered the question of God’s theodicy in the fall of the northern kingdom of Israel and the southern kingdom of Judah as recounted in Kings and Chronicles. Starting with King Jeroboam, Israel ceased to observe God’s laws and finally fell victim to the Assyrians. Then Judah fell to the Babylonians when King Manasseh incurred the wrath of God because of his abominations. The question that is raised here is one of theodicy. Should the people be held responsible and punished for the misdeeds of their kings? Is God’s justice true justice?

Richard Rubenstein of George Mason University followed this up with a paper that critically evaluated the teachings of Isaiah and Jeremiah. Isaiah was a prophet of Judah; he attacked the corrupt government. Even after the fall of Judah, Isaiah believed that God would protect Jerusalem. Jeremiah, on the other hand, places all blame for the fall of Judah on the Jewish people because of their worship of other gods. The emphasis here is on the differing moral visions of these two prophets.

The second part of the conference, and the largest part, considered the New Testament. Adela Collins from the Yale University Divinity School gave the keynote talk. She is the Buckingham Professor of New Testament Criticism and Interpretation. She considered the historical Jesus and how the historical Jesus has changed with time. What we have is a historical Jesus versus a Christ of faith or, as it is sometimes said, deists versus theists. A deist is someone who believes that God set the universe going and then stepped out of the picture. Theists believe that God continues to intervene in human affairs. The age of biblical skepticism began in the eighteenth century with Hermann Reimarus, who attempted a critical biography of Jesus. The twentieth century skeptic was Rudolf Bultmann, who pioneered the form-critical method of studying the Synoptic Gospels in the 1920s. As far as I can tell from her talk, Collins is not a skeptic in that she

believes that Jesus was baptized by John the Baptist, Jesus taught the multitudes, Jesus performed exorcisms, and Jesus was crucified. She is a skeptic to the extent that she does not believe that Jesus performed miracles.

Many religious scholars share the sentiments of Adela Collins. One of these is James Tabor, chairman of the Department of Religious Studies at the University of North Carolina, who discussed an apocalyptic Jesus. Before his talk and before I knew his sentiments, I asked Tabor if he believed that Jesus actually lived. He said that Jesus had lived and gave as proof the verse in Galatians 1:19, where Paul refers to James as the brother of Jesus. I pointed out that this reference is often given to prove that James was a blood brother of Jesus but that the word “brother” can have many meanings. Tabor said that the Gospels refer to Jesus’ brothers and sisters and that James was one of them. This may account for the aid Tabor provided to the Discovery Channel documentary, *The Lost Tomb of Jesus*. Another speaker, April Deconick from Rice University agreed with Tabor, so I dropped the subject. The point here is that many of the theologians at this skeptics conference were not willing to be skeptical of their cherished beliefs. In his talk, Tabor said that Paul was executed by Nero and never got to Spain, which was his destination according to Romans 15:28. However, as I point out in my book, *The Many Faces of Jesus*, Paul did get to Spain, where he died, at least according to Clement of Rome.

Bruce Chilton from Bard College, in his talk, “Sacrifice and the Historical Jesus,” noted that Galileans took part in the Jewish revolt of 6 AD against the Romans. The supposition here is that the Galileans were hostile to Rome and that Jesus, a Galilean, spoke against Rome and was crucified for doing so.

The next speaker was Robert Price, Professor of Theology and Scriptural Studies at the Johnnie Colemon Theological Seminary. Price is in the mythical Jesus camp. Price took up the problem of James and his relation to Jesus. He pointed out that the word “brother” has many connotations. James could have been a stepbrother, an actual brother, a brother of the Jesus sect, a spiritual brother, or an earthly counterpart of a heavenly god. The Gnostic books have many references to “brothers.” In the *Apocalypse of James* in the Gnostic literature, Jesus and James are half brothers. Of course, being Gnostic, this could have several meanings, such as brothers in spirit.

Gerd Lüdemann from the University of Göttingen in Germany talked about the historical problems in Luke-Acts. Of course, we know that the accounts in Acts do not agree with the letters of Paul. Lüdemann was asked if he thought that Jesus is a myth. He replied that Jesus is certainly no myth. As proof, he noted that Jesus was crucified in 30 AD and that Paul converted in 33 AD. Lüdemann pointed out that the two or three years between the death of Jesus and the conversion of Paul does not allow enough time for a myth to be formed, since a myth requires many years. He went on to say that the Romans killed Paul but that the account in Acts ignores this. Finally, Lüdemann asked the question, “What caused the rapid growth of Christianity?” He did not answer this question. Personally, I consider Lüdemann’s proof of the reality of Jesus to be so weak as to be no proof at all. I believe that his question concerning the rapid growth of Christianity refers to the three years between the crucifixion and Paul’s conversion, because by the time Paul converted the Jesus story was widely known. Here, it is assumed that the Gospel story of Jesus occurred before Paul appeared on the scene. Again, this is an example of a speaker who is not skeptical of his beliefs.

David Trobisch of the Bangor Theological Seminary titled his talk, “Who Published the Christian Bible?” Trobisch has spent his career studying original manuscripts. He showed examples of ancient Greek texts and how translation is made difficult by abbreviations and by insertions of Hebrew into the Greek texts. The sheepskins that were used for writing were expensive, so that abbreviation was much valued in manuscript writing. By careful translation, it is often possible to detect what Trobisch calls “forgeries.” These are entire manuscripts or later insertions into legitimate manuscripts.

For example, in John 21:24-25, we have the passage: “This is the disciple who is bearing witness to these things, and who has written these things; and we know that his testimony is true. But there are also many other things which Jesus did; were every one of them to be written, I suppose that the world itself could not contain the books that would be written.” This is obviously not the author writing this. It is his publisher who is making an editorial note. We know this from the use of the first person singular and plural. Not only that, but the use of the word “books” indicates a much later addition for this last chapter of John, since the making of books rather than scrolls did not begin until the middle of the second century. Trobisch identifies the publisher of John as Polycarp of Smyrna, who also published the letters of Ignatius. Trobisch also believes that the New Testament canon, which was established in 367 by a festal letter sent by Athanasius, the Bishop of Alexandria, was a response to the canon of Marcion, which contained only the Gospel of Luke and ten of the Pauline letters.

A discussion of Christianity would not be complete without a discussion of the Q gospel and the Nag Hammadi library. Arthur Droge of the University of Toronto discussed the Q gospel. I privately discussed the Q gospel with him and said that the earliest Q sayings might go back to the first decade of the Common Era. Droge was skeptical of this and favored a date around 40 AD. In his talk, he indicated that Q was written before 70 AD. He did agree with me that the Q gospel is important for an understanding of the historical Jesus. He did not wish to comment on my remark that the Gospel of Thomas could have been the original Q gospel. However, Droge believes that the historical Jesus is the one discussed by Adela Collins in her keynote address. His idea is that Jesus was a cynic similar to Martin Luther King and the leaders of the counter culture of the 1970s. He believes that the community of Q was a Galilean sect that struggled against Roman oppression.

April Deconick of Rice University is a scholar of the Gnostic gospels. She is fluent in the Coptic language. She gave a talk on the influence of the Gnostic gospels on early Christianity. In a private conversation with her, she said that there has been an error made in the translation of the *Gospel of Judas*. Actually, Judas did not love Jesus, but he hated Jesus. If this is correct, it turns the published *Judas* gospel on its head. Deconick has published a book on the *Gospel of Thomas* and believes that the core sayings of *Thomas* are from Q. According to Deconick, *Thomas* was not Gnostic originally, but it developed mystical sayings in Syria between 50 and 100 AD.

Finally, we have the talks dealing with Islam and the Quran. I note that there was a strong anti-Muslim sentiment among the Islamic scholars at the conference. There was also skepticism that Muhammad ever lived. This was brought out first in a talk by Solomon Schimmel of Hebrew College. He said that educated Muslims offer specious proofs for the divine authorship of the Quran. Some of these proofs maintain that the Quran predicts evolution, special and general relativity, recent medical discoveries, and

details embryonic development. He cited line and verse of the Quran to substantiate his claims, but I did not note these, and so I cannot pass on this information. It is stated by Muslims that no other writing, whether it be the Jewish Scriptures, Shakespeare, Milton, or Bacon can match the beauty of the Quran, so they believe that it must be divinely inspired.

Markus Gross is a linguist from the University of Freiburg in Germany. He has studied the Quran in both Syriac and Arabic. He noted the difficulty in interpreting the meaning of the Quran in translation. The problem arises with the diacritical points, which can change the meaning of a word. In this regard, there are so-called neutral texts in which no marks appear. In that case, the meaning of the words must be guessed from the context. For example, it is stated in Sura 44:54 and 52:20 that Allah will pair men with dark, wide-eyed maidens. By deleting a few dots, the sentence says that Allah will give men white, clear grapes. The question then becomes, do Muslim martyrs get 72 virgins or 72 white grapes? In private conversation with Gross, he said that Muhammad is as real as Santa Claus.

The proper interpretation of the Quran was discussed by Gerd Rüdiger-Puin from Saarland University. He pointed out that the Quran was originally written in an ancient script and that since then various phonetic copies have been produced giving variants of the Quran. Two versions can have the same script but different meaning. When several copies differ by their diacritical marks, only one is selected for publication. The interpretation or hermeneutics then becomes dependent on the diacritical marks. In many cases, the meaning must be guessed from the context.

Volker Popp, a scholar from Germany, has studied artifacts found in archeological digs, especially coins from the eighth century Persian and Byzantine empires. These coins were propaganda put out by the government at the time and reflect the history of the region. Popp showed Persian coins with inscriptions of Isaiah 49:2 and images of Jesus holding a flaming sword next to an arrow. Isaiah 49:2 states, "He made my mouth like a sharp sword, in the shadow of his hand he hid me; he made me a polished arrow, in his quiver he hid me away." The earliest inscriptions had the word "Muhammad" inscribed next to the Jesus figure. The coins slowly changed in the ninth century as Jesus morphed into Muhammad. Popp speculates that the first 200 years of Islamic history is a myth. Islam is an altered Christology. Mecca and Medina were never the origins of Islam and Muhammad was not the founder of Islam. Popp says that Mecca was introduced later as a type of "theme park." The true meaning of the Quran can come only from "peeling back" layers of translation.

Hans Jansen of the University of Utrecht in the Netherlands gave a talk entitled "The Gospel According to Ibn Ishaq." Ibn Ishaq lived in the eighth century and gave us the first biography of the prophet Muhammad. Jansen first discussed some passages in the Quran. He noted that Jihad is not war, since wars have endings, but Jihad is never ending. Also, the Quran says that it is permissible for a husband to beat his wife if she does not obey him, but the Quran cautions that the beating should be in moderation. All biographies of Muhammad follow Ibn Ishaq's biography. However, there is no way to confirm the account of Ibn Ishaq, who attributes miracles to Muhammad. Ishaq's story is a gospel story, just as the story of Jesus is a gospel story. Therefore, the stories of Muhammad are in doubt as is his very existence. If the existence of Muhammad is in doubt, then how reliable are the stories of early Islam after the death of Muhammad? I

asked Jansen this question and noted that if the first caliph Abu Bakr and Muhammad's cousin Ali are fictional, then the Sunnis and Shia are fighting over fictional characters. Jansen replied that it is his opinion that the entire Muhammad story is fictional. He believes that the Sunni-Shia split did not occur until the period between 750 and 800 AD.

Finally, Van Harvey of Stanford University concluded the conference with a talk on the interpretation of religion. He noted that people began to seriously question the hermeneutics of religion after the enlightenment of the eighteenth century, which turned into the historiography of religion in the nineteenth century. Two hermeneutics evolved: the hermeneutics of recollection and the hermeneutics of suspicion. The hermeneutics of recollection go to the scriptures of each religion for accounts of what actually happened—to Exodus for Moses, to the Gospels for Jesus, and to the Quran and the Hadith for Muhammad. The hermeneutics of suspicion enlist a critical historical study to try to understand the basis for the claims of the religious books.

The conference finished with an announcement that a committee will be set up for a critical historical study of Jesus and the Christian religion. This will be called “The Jesus Project.”

Overall, I was pleased with the conference. It reaffirmed many of my ideas on Christianity, but it did not alter my ideas. I disagree with many of the Christian scholars who accept the Gospels' story of Jesus, but without the miracles. Too many of the scholars are not willing to be skeptical of their own work. This statement may apply to me as well, but I do not claim to be a Christian scholar. I am a scientist who examines the written evidence and draws conclusions, which can be verified by the original literature.

I was somewhat taken aback by the Islamic scholars. I had believed that the stories about Muhammad were true, since they came so late in biblical history, when everyone was writing books. The Persian coins and the lack of original Quranic manuscripts throw the entire basis of Islam into question. It seems to me that the Muslims should critically study their history. However, the very nature of Islam prevents such a study. Should a Muslim question any one part of the Quran, he or she becomes an apostate and is subject to execution by Shariah law. The Quran is considered the direct word of God as revealed to Muhammad and, as such, is inerrant. There is no God but Allah, and Muhammad is His messenger. For a Muslim to question this is to invite death.

I applaud the Center for Inquiry and its affiliate organizations, the Council for Secular Humanism and the Committee for the Scientific Investigation of Claims of the Paranormal for challenging the fundamentalist religious thinking in our country.

This concludes my report on the Scripture and Skepticism conference. I have tried to faithfully reproduce what I experienced and transmit it back to this congregation. Any errors in transmission are my responsibility.

I shall be happy to entertain questions and/or discussion.

## Religion and Science

It's a happy day for the world. It is humbling for me, and awe-inspiring, to realize that we have caught the first glimpse of our own instruction book, previously known only to God. Francis Collins at the White House, June, 2000 upon the announcement of the completion of the Human Genome Project

Early this year, Lynn Steele led a series of Intersection discussions entitled "Scientists and the God Question." These discussions raised some questions in my mind. Why is there a schism between religion and science? Why are some scientists agnostics or atheists, while others are evangelicals? What is the meaning of faith? In this talk, I shall endeavor to answer these questions.

In order to understand the religion versus science debate, it is necessary to understand the view of the scientists. Science is based on experimental observation. A hypothesis is stated concerning some aspect of nature, and experiments are then done to test the hypothesis. By an experiment, I mean a physical examination of the natural world using the tools of science. These tools can be microscopes, telescopes, spectrophotometers, electrolysis cells, ammeters, DNA sequencing machines, to name just a few of the many tools available to the scientist. The natural world consists of that part of the universe susceptible to study by these tools. The supernatural world is not susceptible to study by these tools. By "supernatural world," I mean that world that does not obey the laws of science or nature. Throughout history, humans have never directly encountered this world. There have been no documented accounts of supernatural events in recorded history. This is not to say that supernatural events cannot occur, but it simply says that in the last few thousand years of human existence such events have been neither documented nor reproduced. Supernatural events exist in the imagination. For all intents and purposes, unless shown otherwise, we can say that supernatural events do not occur.

If we claim that supernatural events do not occur, we must also say that beings with supernatural powers do not exist. That is, as far as human experience is concerned, no beings with supernatural powers have ever been observed and documented. The restriction to documentation is important, since our literature is rife with reports of supernatural beings. Thus, we have the being who was fathered by a god and born of a human woman. This being possessed supernatural powers, fought many battles against evil, endured great pain at the end of his life, and finally visited Hades. Another being, who was murdered by his evil brother, mummified, and brought back to life by his sister, now possesses supernatural powers in the Underworld. A third being is faster than a speeding bullet, mightier than a locomotive, and can leap tall buildings with a single bound. These beings with supernatural powers are considered myths or comic-book characters. As far as science is concerned, miracles, which are supernatural events, do not exist, and gods, which are beings with supernatural powers, do not exist.

In order to understand the religion versus science debate, it is necessary to understand the views of the theologians. The theologians are not as united in their views as the scientists. There are theologians who take their sacred books literally. For these people, reports of miracles are the truth, as revealed by prophets and gods. There are also theologians who take many of their scriptures as allegory. However, to my knowledge, all theologians of the Christian, Jewish, and Islamic faiths profess a belief in God. Many of

these people support belief in angels, devils, souls, the resurrection of the body, and in the existence of a heaven. None of these beliefs can be supported scientifically. In order to hold these beliefs, one must have “faith.”

Faith is the key to religious belief. The dictionary defines “faith” as a system of religious belief and a belief in and devotion to God. As a practical matter, the term “faith” has many meanings. I have been asked if I am a man of faith. What does such a question mean? Does being a man of faith mean that I believe in metaphysical speculation and the supernatural? Does it mean that I am a moral person and that if I have no faith I am immoral? Is it necessary to have faith to be moral? Many people would say, “yes” to this last question. It is often said that religion is necessary so that our society will be an ethical society.

It is reported that over 90% of our population is religious, with belief in the supernatural. This conflicts with science, 60% of whose practitioners have no belief in the supernatural, according to a 1997 survey. The views of the world that drive the scientists are not the same as those that drive the nonscientific faithful.

Early man was curious about his surroundings, about the creation of life, the origin of the world, and about the meaning of death. Some of the early Greeks, such as Epicurus and Pythagoras sought natural explanations for the vagaries of life. Others, such as Plato and Zeno of Citium sought explanations in a transcendental being. The Epicureans did not rule out the possibility of gods, but they maintained that gods could not be responsible for natural events or for the lives of people. Accordingly, the gods have no control over our lives and thus cannot hand out reward or punishment.

Plato rejected empiricism completely. For Plato, objects of our sense experiences are not proper objects for knowledge. Knowledge can come only from God. Plato gave us the concept of a soul, which contains our mind, which in turn is in direct contact with God. When we die, our soul returns to God. For the Stoics, our soul is contained in our breath and it contains the mind and reason. When we are born, our soul enters our bodies with our first breath and leaves our bodies with our last breath.

The conflict between science and religion was established early in the first millennium BCE (before the Common Era). Ancient man was not interested in life after death. It was assumed by the early Jews and by the Minoan civilization on Crete that after death there was a shadowy existence in the Underworld, but there was not any urgency in elucidating the details of this death. With Platonism and Zoroastrianism and their embrace of personal gods, one’s fate after death became a major concern. Concepts of heaven and the Resurrection became prominent in the Western religions.

Much of our thinking about nature is conditioned on our early upbringing. Children ask, “How did I get here?” and “What happens to me after death?” The usual answers are that God made them and when they die they will go to heaven to be with God. Plato could not be happier with these answers. These ideas are implanted in young minds and become what Richard Dawkins has termed “memes” or cultural units that replicate themselves in society. Very few scientific answers are ever given, and indeed, not many people care for scientific answers to these questions.

Our discussion up to now has set the stage for a fascinating conundrum—scientists who are persons of faith in the evangelical and fundamentalist traditions. How can it be that a confirmed scientist and Nobel Prize winner can believe in the supernatural? This question has fascinated me ever since I watched Bill Moyers’ program on “Faith and

Reason.” I shall discuss three scientists and the arguments that these scientists use to justify their faith.

Francis Collins is the head of the Human Genome Project. He received a Ph.D. in chemistry before entering medical school. It was in medical school that Collins developed a love of genetics. It was also in medical school that Collins converted from atheist to religious fundamentalist. Collins recounts his epiphany in his book, *The Language of God*. As a medical intern, Collins came face-to-face with death and the peace with which the faithful faced death. It was then that Collins asked the question, “Is there a God?” Collins then turned to reading about religion and found the book, *Mere Christianity*, by C. S. Lewis. This book completely changed his life. What changed it was the realization that a Moral Law exists.

C. S. Lewis believes that deep within the human psyche there exists an understanding of what is really good and what is really evil. This is not something that has been learned, but rather it is part of our very fabric. Lewis calls it the “Moral Law.” Lewis also says that all of us have broken the Moral Law. Recall that the apostle Paul also said that all have sinned and come short of the glory of God. Lewis regards as basic facts the existence of the Moral Law and the breaking of this law by Man. The Moral Law is a real thing and not something that we have made up. According to Lewis, “The Law...must be something above and beyond the actual facts of human behaviour...a real law which we did not invent and which we know we ought to obey.” Lewis believes that this law tells us something about the universe. Lewis posits that the materialistic view of the universe gets us nowhere. He prefers what he calls the religious view. He writes, “According to it, what is behind the universe is more like a mind than it is like anything else we know...it is conscious, and has purposes, and prefers one thing to another. And on this view it made the universe, partly for purposes we do not know, but partly, at any rate, in order to produce creatures like itself—I mean, like itself to the extent of having minds.”

These beliefs of C. S. Lewis are what convinced Francis Collins to become a Christian. As Collins writes, “If God exists, then He must be outside the natural world, and therefore the tools of science are not the right ones to learn about Him...the ultimate decision would be based on faith, not proof.” Collins goes on to profess a belief in the literal interpretation of the Bible, except for the part about the existence of life forms, which he attributes to Darwinian evolution. Thus, Collins believes in souls, angels, devils, the Resurrection, heaven, hell, and miracles.

Kenneth Miller is a biologist at Brown University. He has written a book, *Finding Darwin’s God*, in an effort to discredit the creationists, who attack Darwin’s theory of evolution. But Miller is also quick to discredit the materialists, who reject religious principles in favor of science. Miller is a firm believer in God, a “God that believers wonder about, that’s the one they pray to, and that’s the one who *seems* to be threatened by evolution.” Miller’s God is the one who whispered to Moses from the burning bush. This God is an eternal being who transcends time and exists everywhere. Such a being can do anything He chooses, including creating life through evolution.

Miller writes, “Something is needed to *drive* nature, to provide the direction and meaning that we sense in life. Stating it simply, we’d better find something *else* out there, or we’re in trouble.” Miller believes that God works his will in ways that are consistent with the materialist view of biology. However, according to Miller, “It would be a serious scientific mistake to assert that the successes of molecular biology and biochemistry in

explaining how living things work, and the complementary successes of evolution in explaining how they got that way, can justify a triumphantly anti-theistic materialism.” He goes on to say that materialistic science cannot explain why the universe is structured the way it is or why we should concern ourselves with answers to such questions.

Paul Davies is a mathematical physicist who has written extensively on the relationship between science and God. Davies received the Templeton Prize in 1995; this prize is given for work leading to a scientific proof for the existence of God. Unless you have a scientific bent, Davies’ books are tough sledding. Davies likes to ask questions such as “Does God exist?”, “Are there miracles?”, “Is there a purpose in the universe?” He then proceeds to discuss the scientific view of the universe—the Big Bang, the laws of nature, the mathematical foundation of the universe, relativity, and quantum mechanics. He then discusses arguments that have been made to attribute the universe to God. These include the cosmological and ontological arguments for the existence of God. The cosmological argument says that science can go only so far in explaining the origin of the cosmos, say back to the Big Bang. However, science cannot go beyond the Big Bang or answer the question, “Why was the universe created?” Ontological arguments for the existence of God go back to Saint Anselm in the eleventh century. Anselm said that God is a being about which nothing greater can be thought. Since we can think of nothing greater, God must exist. In this case, God’s existence is by definition.

Davies also discusses God as an intelligent designer, God as an explanation of transcendent and mystical experiences, and the necessity of God from the Anthropic Principle, which states that the universe as we know it would not exist unless God had made it with exactly the precise physical constants that we observe. Davies then proceeds to shoot down these arguments for the existence of God, although conceding that some might be correct. Davies always leaves the door open a crack so that the necessity for God is not totally kept out.

Neither will Davies be pinned down as to the nature of God. For Davies, God can be mind, a necessary being, a mystical presence, the infinite, or a creative principle or ground of being. At the end of his book, *The Cosmic Blueprint*, Davies writes, “The very fact that the universe *is* creative, and that the laws have permitted complex structures to emerge and develop to the point of consciousness—in other words, that the universe has organized its own self-awareness—is for me powerful evidence that there is ‘something going on’ behind it all. The impression of design is overwhelming.”

At the conclusion of his book, *The Mind of God*, Davies writes, “I cannot believe that our existence in this universe is a mere quirk of fate, an accident of history, an incidental blip in the great cosmic drama. Our involvement is too intimate. The physical species *Homo* may count for nothing, but the existence of mind in some organism on some planet in the universe is surely a fact of fundamental significance. Through conscious being, the universe has generated self-awareness. This can be no trivial detail, no minor byproduct of mindless, purposeless forces. We are truly meant to be here.”

The three scientists whose work I have discussed approach religion from different perspectives. Collins is an evangelical who underwent a deep religious experience. Miller was raised a Catholic and retains the beliefs of his Catholic upbringing. Davies gives no indication of his religious foundation, but from the Preface to *The Mind of God*, it appears that his unending desire to know *why* led him into physics and thence into metaphysics. The answer as to why a scientist would embrace metaphysical explanations

for natural phenomena is complex. It has been suggested that there are processes in the brain that enable some of us to transcend material existence and make connection with a higher reality.

This has been suggested by the physicians Andrew Newberg and Eugene D'Aquili in their book, *Why God Won't Go Away*. These researchers obtained CT brain scans of meditating Buddhists and observed that, during meditation, parts of the brain shut down. This behavior is attributed to the loss of the brain's sense of self. The conclusion is that meditation forces the brain into a transcendental state, where it becomes as one with God. One must be careful in accessing the conclusions of this book. The authors espouse dualism, à la Descartes, which says that the body and mind are two different entities. In their conclusion, the authors posit that science is mythological and religion is real.

In his book, *The God Gene*, Dean Hamer says that faith is hardwired into our genes. Our belief in God is part of our genetic makeup, and we cannot escape it. This view has elicited many skeptics, who believe that the religious experience involves much more than just a few genes.

Psychologists Marcello Spinella and Omar Wain, writing in the October, 2006 issue of the *Skeptical Inquirer*, have related religious beliefs to specific parts of the brain. Nothing definite can be claimed, but it appears that there *is* a relation between the prefrontal cortex, the temporal lobes, and the limbic system. Higher forms of thinking occur in the prefrontal cortex. The temporal lobes, situated at the base of the cerebrum just above the ears and directly connected to the limbic system, are responsible for the storage of long-term memories. The limbic system, also positioned at the base of the cerebrum, contains the hippocampus and the amygdala. The limbic system is the seat of emotions. It is known that persons with temporal lobe epilepsy experience intense religious and out-of-body experiences. Pentecostal church followers who speak in tongues have shown increased activity in the temporal lobes.

It appears to me that the religious experience involves the reasoning part of the brain coupled to the emotional part of the brain. This may be the basis of faith and reason. It has occurred to me that there may be a competition between the forebrain, which contains reason and our sense of self, and the limbic system, which governs our emotions. Thoughts such as life after death may connect our sense of self with our limbic system. Could it be possible that this sets up a competition between the reasoning part of our forebrain and the limbic system? For some of us the reasoning part wins, while for others the faith part wins.

Others may prefer mystical explanations as espoused in the book, *Why God Won't Go Away* or by Fritjof Capra in his book, *The Tao of Physics*, or by Ken Wilber in his book, *Eye to Eye*, or by Amit Goswami in his book, *The Self-Aware Universe*. I realize that in this audience both sides of the faith versus reason controversy are represented. Although we cannot solve the controversy here, I nevertheless encourage your comments and/or questions on this issue.

## Origins of Islam

In the name of God, Most Gracious, Most Merciful. Praise be to God, The Cherisher and Sustainer of the Worlds; Most Gracious, Most Merciful; Master of the Day of Judgment.

Thee do we worship, and Thine aid we seek.

Surah 1, The Quran

In April, 2007, I gave a talk here entitled “Scripture and Skepticism,” reporting on a conference I had attended at the University of California at Davis under the auspices of the Committee for the Scientific Examination of Religion, which in turn is under the auspices of the Center for Inquiry. I reported that the section of the conference devoted to Islam featured German scholars who were skeptical of the traditional accounts of the origin of Islam. This surprised me, because I had assumed that the history of Islam was well known, since it came in the seventh century, by which time many Christian books had been written. Intrigued by the information contained on Islamic coins, I decided to look into the situation for myself. What I found is that there is very little written or archeological information from seventh century Arabia, Persia, or the Byzantine Empire. The reason for this is the disarray into which the Persian and Byzantine Empires had fallen because of the wars between these empires and because of the attacks by foreign tribes. In North Africa, the Berber nomads were attacking Byzantine towns. The Avars and Slavic tribes were attacking the Balkan provinces. The Lombards were invading Italy. In Palestine, North Arabian tribes compelled the monks there to ask the government to build forts for protection. These attacks and the necessity to defend against the Persians put pressure on the Byzantine army and on the ability of the government to raise the taxes necessary to support the army. Just as in the case of the Roman Empire two centuries earlier, incursions by nomads were slowly sapping the strength of the Byzantine Empire. Likewise, the Persian Empire was being threatened by the Bedouin Arabs, the Slavs, and the Avars.

The traditional story of the origins of Islam can be found in all books on Islam, such as Karen Armstrong’s book, *Islam*. A thumbnail sketch can also be found in my book, *The Immortal Self*. I shall paraphrase some of what is in my book.

When Muhammad was born in Mecca in 570, the major political powers in the Near East were the Byzantine Empire centered in Constantinople and the Persian Empire centered at Ctesiphon. The Byzantine religion was mainly Christian, while the Persian religion was primarily Zoroastrian. The religion in Arabia at the birth of Muhammad was a mixture of Jewish, Christian, Arab monotheism, and Arab paganism. Mecca was a major city on the caravan route between Yemen and Syria. This route brought traders and merchants of various religious sects into the city, whose main temple was the Kaaba, originally the temple of Abraham, but at the birth of Muhammad the Kaaba was also used to worship the pagan gods. The temple was run by the tribe of Quraysh, and by keeping the temple multi-religious the Quraysh were turning a handsome profit. The conservative Bedouins, a nomadic desert people, were not happy having foreigners in their temple, especially the pagans. Thus, the seeds of discontent were being sown in Mecca at the birth of Muhammad.

Being a Bedouin, Muhammad became a caravan guide and proved himself so trustworthy that he was much sought after. He married a rich widow, and by the time of

his late thirties had become a prosperous businessman. About this time, a change came over Muhammad. At first he would wander off into the hills around Mecca. Then during his wanderings he began to hear voices and see lights. At first he feared that he was going mad, but his wife and friends convinced him that he was not mad. Muhammad realized that God was speaking to him. His friends and followers wrote down descriptions of the visions that Muhammad had as he related them over a period of thirteen years. Thus was started the religion of Islam, and the descriptions were incorporated into the Quran. During this time, Muhammad had attracted a vast following, which believed that Allah was unhappy over the avarice of the Meccans and the running of the temple and that Allah was sending a new message to his people through his prophet Muhammad. Muhammad had numerous disagreements with the elders of Mecca. He moved to Medina in 622 and made it the center of Islam.

In 629 the Muslims took control of Mecca and soon all Arabia joined the Islamic movement. In 630 Muhammad launched a campaign against the Christians in Jordan. After a second campaign in 632, Muhammad fell ill and died. His tomb is in Medina. After Muhammad's death, there were several caliphs who led the Muslim forces against the ruling empires of the day. Thus, under Umar the Conqueror, the Muslims captured Damascus from Byzantium, took Syria from Emperor Heraclius, and captured Jerusalem and Ctesiphon in 637. They defeated the Byzantine army and captured Alexandria in 641. Under the Caliphate of Uthman, the canonical text of the Quran was established. Under Uthman, the Muslim empire was extended to Cyprus, Rhodes, Afghanistan, Turkestan, and Khurasan. In 670, under the fifth Caliph, Muawiyah, the empire was extended to Bukhara and Morocco, and the capital was moved from Medina to Damascus. Under succeeding caliphs, the Muslim empire was extended to China in the east and to Gibraltar in the west. Muslim armies conquered Pakistan, and the cities of Nîmes, Bordeaux, and Arles. Within 100 years the Muslims had conquered a large part of the known western world—a phenomenal achievement!

Where do we get this story? It comes from two places—the Quran and the *hadiths*, the latter comprising the tradition of what Muhammad and his companions said and did. There is also the story of Muhammad's life as told by Ibn Ishaq in 750 and written down by Ibn Hisham about 800. The hadiths form most of what we know about early Islam. The hadiths are eyewitness accounts that have been orally passed on from generation to generation and finally written down. Every hadith needs a list of conveyers who guarantee the accuracy of the accounts. This list is called an *isnad*. There are tens of thousands of hadiths, all being traced back to Muhammad or his companions. Islamic scholars have studied the hadiths and have either verified them or rejected them. The Sunnis have a different set of hadiths than the Shiites. Skeptics have called the hadiths into question. One reason is that the later the hadith, the more detail it contains. Because of the controversy surrounding the hadiths, I have decided to ignore them. Instead, I shall concentrate on the actual facts as obtained from seventh century non-Islamic writers, from inscriptions on rocks and tombs, and from coins.

Arab-Persian and Arab-Byzantine coins are a good place to start. An early Arab-Byzantine coin, minted in Damascus before 641 shows the caliph on the obverse with a tall cross in his right hand and a small cross in his left hand, similar to the Byzantine coins of the time. This may not be too significant, because the early Arab conquerors kept the coins of those they conquered, with little change. Thus, an early Arab-Persian coin

minted after 641 shows the image of the last Persian ruler Yazdegerd III on the obverse and a Zoroastrian fire altar on the reverse. The only difference between this and an earlier Persian coin is the wording *bism Allah* (in the name of God) in the obverse margin. These additions were always in Persian script (Pahlavi) until the introduction of Arabic by the caliph Abd al-Malik in 692. Beginning with the caliphate of the Umayyads in 661, the coins showed the image of the Persian ruler Khosrow II with various inscriptions in the margins, such as “for God,” “in the name of God, my Lord,” and “in the name of God, the king.”

The Islamic coinage gets interesting in 692, when Abd al-Malik, in a dispute with the Byzantine emperor, Justinian II, mints a new Arab-Byzantine coin similar to the Byzantine coin on the obverse, but instead of a cross on the reverse, the coin featured three steps leading to a column topped by a sphere and Arabic wording, “In the name of God, there is no deity but God; He is One; Muhammad is the messenger of God.” To my knowledge this is the first mention of Muhammad by the Arabs. By 693, Justinian II had countered with a coin having a bust of Christ on the obverse and his own image on the reverse. Malik countered this by minting a coin with his image on the obverse, the reverse being little changed. By 697, Malik had converted his coins, both Byzantine and Persian, to quotations from the Quran in Arabic. The Islamic coins retained this feature through the Umayyad and Abbasid caliphates. It should be pointed out that at this time Abd al-Malik had the Dome of the Rock built in Jerusalem with references to Muhammad and verses from the Quran.

There are several Christian sources that provide insight into the origins of Islam. As I discuss in my book, *The Many Faces of Jesus*, the Council of Chalcedon in 451 was meant to resolve the dispute between the eastern religions on the nature of Jesus. The orthodox Christians from Constantinople believed that Jesus possessed two natures—both god and man. Syrian and Alexandrian Christians believed that Jesus was human but possessed one divine nature. The Council of Chalcedon had ruled that Christ possessed two natures. This immediately created a schism in the church with the one-nature group being referred to as Monophysites. The Monophysites exist today as the Armenian, Coptic, and Jacobite Churches.

This schism plagued the Byzantine rulers in the sixth century. The Arabs in NW Arabia had been converted to Monophysitism in the sixth century and had been used by the Byzantine emperor, Justinian I, as a buffer between the Byzantine Empire and both the Persians and the marauding Bedouin Arabs. The Monophysite Arabs were known as Ghassanids; they controlled parts of Syria and the west coast of Arabia, known as the *Hijaz*, which included Medina and Mecca. The Monophysites were also prominent in Persia under the emperor Khosrow II, who ruled from 590 to 628. Khosrow’s wife was Monophysite and she induced her husband to favor the Monophysites. Thus, although officially Zoroastrian, the Persian rulers were Monophysite Christians. As a result, Persian incursions into Arabia and Yemen introduced Monophysitism among the Arabs. Recall that the early Umayyad caliphs put Khosrow II on their coins.

The Christian monk, John of Phenek, writing about 690 makes a clear mention of the fact that the Muslims had, from their leader Muhammad, a special order in favor of the Christians and the monks. John, who was a Nestorian, a Christian sect that disagreed with both the decision of Chalcedon and the Monophysites, wrote that all the new rulers required was payment of taxes, but otherwise there was complete religious freedom. He

writes, “Among the Arabs are not a few Christians, some belonging to the heretics (Monophysites) and some belonging to us (Nestorians).” John goes on to describe how the Monophysites were spreading throughout Persia under Arab rule.

The Syrian Christian, John of Damascus, writing about 726, tells us that his father was the chief financial officer for Abd al-Malik in Syria and that John, himself, occupied a high position in the Islamic government. John of Damascus was aware of Muhammad and of Mecca.

John of Phenek was upset with the second Umayyad caliph, Yazid I who ruled between 680 and 683, and John accused Yazid of immorality. John bemoans the loss of the Arab kingdom and the death of its leader Abdullah ibn al-Zubayr under Yazid’s successor, Abd al-Malik. Al-Zubayr was a caliph in his own right, although he is not recognized as such in most lists of Islamic caliphs. That he had governors in central Iran, we know from his coins minted between 685 and 691. Thus, Zubayr was challenging the Umayyads for leadership of the Arabs. To get more information on Zubayr, we have to go the hadiths that mention Zubayr. Tradition has Zubayr dominating southern Arabia, Syria, Iraq, and parts of Egypt. It is reported that Zubayr destroyed the Kaaba at Mecca and rebuilt it.

Combining the coin evidence, the writing of John of Phenek, and the available hadiths, it appears that Zubayr was a formidable Arab leader, who had a significant presence in Arabia, Syria, Iraq, and Iran. This occurred at the beginning of the Umayyad dynasty, especially during the caliphate of Abd al-Malik. Tradition reports that Malik recruited his lieutenant al-Hajjaj to deal with the festering problem of Zubayr. Al-Hajjaj was sent to Iran with an army to subdue Zubayr’s brother, Musab ibn al-Zubayr, in 691, after which Abd al-Malik sent Hajjaj to the Hijaz in 692 to deal with Zubayr at Mecca. Zubayr must have constructed a formidable fortress at Mecca, because tradition reports that it took Hajjaj a siege of seven months, using catapults, to break into the fortress and capture Zubayr. It is reported that Zubayr was beheaded, and some reports have his head being sent to Abd al-Malik in Damascus to be displayed as a warning to Zubayr’s followers. It has been reported further that Hajjaj stayed on in Mecca to repair the damage his siege had done and to rebuild the Kaaba in the form we now find it.

From coin evidence, we know that al-Hajjaj was a significant figure in the caliphate of Abd al-Malik. Al-Hajjaj is credited with developing the diacritical marks used in Arabic script, and he promoted the use of Arabic in place of Persian script. About 720, there had been an exchange of letters on the question of the respective merits of Christianity and Islam between the Umayyad Caliph Umar II and the Byzantine Emperor Leo III. In the letter to Umar, the Byzantine Emperor writes: “In brief you admit that we say that it (i.e., the Quran) was written by God, and brought down from the heavens, as you pretend, although we know that it was Umar, Abu Turab (Ali, the fourth caliph) and Salman the Persian, who composed that, even though the rumor has got around among you that God sent it down from the heavens...As for your (book), you have already given us examples of such falsifications, and one knows, among others, of a certain Hajjaj, named by you as the governor of Persia, who had men gather up your ancient books, which he replaced by others composed by himself, according to his taste, and which he propagated everywhere in your nation, because it was easier by far to undertake such a task among the people speaking a single language. From this destruction, nevertheless,

there escaped a few works of Abu Turab, for Hajjaj could not make them disappear completely.”

Most Western scholars believe this to be reliable correspondence. It shows that there is evidence from the early eighth century that al-Hajjaj was active in writing the Quran. I hasten to point out that Muslim scholars reject this completely.

What are we to make of the non-Islamic evidence? First, I suggest that it shows the importance of Monophysite Christianity in the origin of Islam. Before the Arab conquest, Monophysite Arabs were ubiquitous in Syria and Arabia. After the conquest, Monophysitism spread throughout Iraq and Iran, and Monophysite Christians were prominent in the administrative ranks of the Arab conquerors.

Second, it shows the importance of the Quran and Muhammad after the caliphate of Yazid I. We get no information about either the Quran or Muhammad before Abd al-Malik in 691. All correspondence was in Persian script before Abd al-Malik, whereas correspondence was in Arabic script beginning about 692.

Third, the importance of Abdullah ibn al-Zubayr is evident. We know that there was a struggle for the hearts and minds of the Arabs between al-Zubayr and Abd al-Malik. From all accounts, Zubayr was a formidable foe, occupying a fortress at Mecca and controlling large parts of Iran. Abd al-Malik had to not only defeat Zubayr, but he had to launch a campaign to claim the loyalty of all the Arabs. Part of this campaign was the introduction of the Arabic script and the use of diacritical marks to make correspondence and translation easier. One wonders whether Abd al-Malik also introduced a purely Arabic religion.

Without extensive archival and archeological studies, it is impossible to say more than this about the origins of Islam. The origins of Islam *are* explained in detail in the traditions of the Prophet. I should point out that orthodox Islamic scholars have considered the evidence that I have given you today, and they have rejected all interpretations except those that support the tradition.

I have sketched the traditional accounts of the origin of Islam, and I have laid out the historical evidence accumulated by Western skeptics. I shall be happy to consider questions and/or comments.

## Mystery Religions

Now to him who is able to strengthen you according to my gospel and the preaching of Jesus Christ, according to the revelation of the mystery which was kept secret for long ages but is now disclosed and through the prophetic writings is made known to all nations, according to the command of the eternal God, to bring about obedience to the faith.

Rom. 16:25-26

I should point out that much of today's talk is taken from my book, *The Many Faces of Jesus*.

Two great events have shaped Western religious ideas. The first of these is the exile of the Jewish people to Babylonia in 586 BC under King Nebuchadnezzar. The second is the conquest of Egypt, Asia Minor, and the Persian Empire by Alexander the Great in 323 BC. These two conquests began a chain of events that changed the religious thinking of the Middle East and the Western world. The Babylonian exile exposed the Jewish people to the new religious ideas of the Zoroastrians. These ideas included the belief in a good god of light and an evil god of darkness. Those who lived a just life could pass over the Bridge of Discrimination and reside with the good god. Those who had not lived a just life were doomed to fall off the bridge and plunge into a fiery hell to be with the evil god. The good god was a personal god as contrasted with previous gods, who were impersonal, omnipotent beings, responsible for the creation of the universe, but not otherwise directly involved in human affairs. Ray Billington, in his book, *Understanding Eastern Philosophy*, suggests that the Zoroastrian good god was the first god to take a personal interest in the human condition and the first monotheistic god. Previously, religions were polytheistic, such as the religion of Egypt, or henotheistic, meaning the worship of one main god among several minor gods, such as the early Jewish religion. In both cases, the gods were impersonal. The early Jews did not interact directly with their god, but were represented by priests, who interceded between the people and the God of Israel.

The Greek Classical Period was ushered in by Plato and his philosophy of a personal god, a *Divine Form*, who interacted with humans through reason. The Platonists believed that upon death the soul is liberated from the body to reside with the Divine Form in the perfect world of Ideas. Our very act of reasoning puts us into direct contact with God. It is not accidental that freedom of religious thought originated in the sixth century BC. This was a time when democracy was established in Athens by Solon and the Jews were forced into a Babylonian exile, breaking the hold on the Jewish religion by the Temple priests. Succeeding centuries saw the victory of the Greeks over the Persians at the battle of Salamis in 480 BC, the philosophy of Plato and Aristotle in the fourth century BC, and finally the conquest by Alexander the Great. As I observe in my book, *The Many Faces of Jesus*: "As the Greek influence was moving from west to east, the Persian ideas of resurrection and the afterlife were moving from east to west. By the first century BC, there had occurred a mixing of Greco-Roman polytheistic religions, Greek philosophy, and Zoroastrianism. This mixing led to a cacophony of beliefs, and out of this came the mystery religions."

The origins of the mystery religions can be traced back to ancient Egypt. In the 14<sup>th</sup> century BC, Isis was considered the Mother Earth goddess, and her husband Osiris ruled the Underworld of the dead. By the fourth century BC, a cult had grown up around Isis and Osiris, and a temple was dedicated to Isis in Egypt. From Alexandria, the cult of Isis and Osiris spread throughout the Greek world. The Greek Mother Earth goddess was Demeter, a sister of the Greek god Zeus. Demeter became identified with Isis, and the Greek god of wine, Dionysus, who had been fathered by Zeus of a human mother, became identified with Osiris. Demeter is associated with one of the earliest mystery religions, the Eleusinian Mysteries, which date from the sixth century BC. Dionysus is associated with the Mysteries of Dionysus, which also date to the sixth century BC.

As I have pointed out, it is not accidental that mystery religions began in the sixth century BC, since this was the time when freedom of religious thought began to spread throughout the Mediterranean region. Indeed, this was part of the so-called *Axial Age*, extending from 800 to 200 BC. According to Karen Armstrong in her book, *The History of God*, throughout the civilized world new religious systems were forming due to changing economic and social conditions. Armstrong says, "There was a new prosperity that led to the rise of a merchant class. Power was shifting from king and priest, temple and palace, to the marketplace. The new wealth led to intellectual and cultural florescence and also to the development of the individual conscience...The Middle East did not produce a uniform solution, but in Iran and Israel, Zoroaster and the Hebrew prophets respectively evolved different versions of monotheism. Strange as it may seem, the idea of 'God,' like the other great religious insights of the period, developed in a market economy in a spirit of aggressive capitalism." She goes on to say, "The rationalism of Plato and Aristotle is also important because Jews, Christians and Muslims all drew upon their ideas and tried to adapt them to their own religious experience, even though the Greek God was very different from their own."

The best known of the mystery religions is that at Eleusis, a town about 18 miles northwest of Athens. At Eleusis is the Temple of Demeter, the goddess of the harvest. There were two celebrations at Eleusis, a lesser celebration in spring and a greater celebration in autumn. Each autumn, a large group of thirty thousand Athenians marched from Athens to Eleusis, where initiation ceremonies were held in the Telesterion, a giant hall capable of holding thousands of initiates. The initiation ceremonies were secret, and we have scant information about them. Initiates were forbidden under penalty of death to reveal the ceremonies. What we know is that there was fire to produce light and gongs to produce sound. A high priest sometimes appeared dressed as Demeter or as Dionysus, the god of wine. The initiates were often in a drugged state brought on by the drinking of wine and a mixture of barley water and pennyroyal. The initiate was led through several stages, beginning with the Outer Mysteries and ending with the secret Inner Mysteries, where the initiate became as one with the cult god. It was a deeply moving experience for the initiates. It has been reported by the Greek philosopher Proclus that the initiates experienced the death and resurrection of the god. Thus, Persephone, the daughter of Demeter, entered the Underworld each autumn and arose from the Underworld each spring. Likewise, Dionysus died each winter and was born again in the spring.

Eleusis was not the only place where Dionysus was celebrated. The Mysteries of Dionysus were celebrated throughout the Mediterranean region. The celebrations of Dionysus were similar to the Eleusinian Mysteries. The mysteries were secret. The

celebrations were more boisterous than those at Eleusis and included intoxication, licentiousness, and deviant sexual practices. The situation got so bad in the second century AD that the Roman senate passed laws prohibiting the celebrations, which were known as Bacchanalia after the god's Roman name, Bacchus. The celebrations in Athens, which lasted for five days, inspired the Greek playwrights, such as Sophocles and Euripides to write their great tragedies.

Marvin Meyer in his book, *The Ancient Mysteries*, has quoted Lucius Apuleius, a Roman philosopher of the second century AD, in describing the Mystery of Isis. Writing in the first person, Apuleius says, "Then at last the day arrived when I was to pledge myself to heaven. The sun swung down and drew the evening on; and lo, hosts of people came eagerly from every direction, each man honoring me with various gifts according to the ancient rite. Then, after the uninitiated had withdrawn to a distance and I had donned a new linen gown, the priest grasped my hand and conducted me into the Holy of Holies.

"Perhaps, curious reader, you are keen to know what was said and done. I would tell you if it were permitted to tell. But both the ears that heard such things and the tongue that told them would reap a heavy penalty for such rashness. However, I shall not keep you any longer on the cross of your anxiety, distracted as you doubtless are with religious yearning. Hear therefore and believe what I say to be truth.

"I approached the confines of death. I trod the threshold of Proserpine; and borne through the elements I returned. At midnight, I saw the Sun shining in all his glory. I approached the gods below and the gods above, and I stood beside them, and I worshiped them."

The initiate underwent an experience of death as he trod the threshold of Proserpine, which is the Roman name of Persephone. Legend has Persephone spending part of her time in the Underworld with her husband Hades. It was the Egyptian belief that the sun traveled through the Underworld at night, so that the initiate saw the sun shining at midnight. The initiate had an experience of meeting and worshipping the cult gods, Isis and Osiris.

A mystery religion that challenged Christianity was the Mysteries of Mithras. The Mysteries of Mithras had its origins in the ancient Persian cult of the god Mithra, and in the sixth century BC, Mithra became the god of the sun. Beginning with the first century AD the cult became popular among the Roman soldiers, some state bureaucrats, merchants, and slaves. No women were allowed into the cult. From the first century AD until its demise in the fourth century, we have information about Mithraism from the temples or mithraea, which were either underground or resembled underground caves. All the mithraea that have been found in Europe and Asia Minor are similar in their iconography of Mithras. It is this iconography that focuses on the ritual and worship of Mithras. Located in the most central part of the mithraeum is the bull-slaying scene. This scene depicts Mithras pulling the bull's snout with his left hand, while a sword in his right hand delivers a deathblow to the bull's shoulder. Mithras' left leg is on the bull's back and his right leg is extended for support. Mithras wears his famous Phrygian cap, and his cape of stars streams out behind him. In most of the bull-slaying scenes, the sun is in the upper left behind Mithras, and the moon is in the upper right near the bull's head. A scorpion, chalice, snake, and dog are always below the bull. The scorpion is there to grab the testicles of the bull, the snake and dog to lick the blood, and the chalice is there to catch the blood. On either side of the scene are the torchbearers, Cautes with his torch

up on the right signifying the rising sun and Cautopates with his torch down on the left signifying the setting sun. Oftentimes, the entire scene is surrounded by the zodiac, with the four winds in the spandrels. Variations on this theme have the bull-slaying scene surrounded by the seven planets and scenes from the life of Mithras. At this time, the Aristotelean universe was in vogue, and the planets that circled Earth were Sun, Moon, and the five visible planets—Mercury, Venus, Mars, Jupiter, and Saturn. The numbers twelve and seven were sacred numbers for the Mithraists, just as they were for the Pythagoreans.

Many of the rituals and beliefs of the Mithraists were so similar to those of the Christianity of the second and third centuries that the Christian apologist Tertullian (160-220 AD) wrote that the Devil himself had created Mithraism by copying Christianity. Similar rituals included baptism, the rite of communion celebrating the Last Supper, and the selection of December 25 and Sunday as holy days. Similar beliefs included the immortality of the soul, the last judgment, and the resurrection. It is impossible to say whether Mithraism influenced Christianity or vice versa. There were probably mutual influences, since Mithraism was the major competitor with Christianity. Thus, it is speculated that the three wise men of *Matthew* represent the priests of Mithras and that, by worshipping Jesus, the wise men acknowledged the supremacy of Jesus over Mithras.

The competition between Mithraism and Christianity was fierce. In 270 AD, the philosopher Porphyry finished a 15-volume criticism of Christianity. In 304 AD, Mithraism became the state religion of Rome. However, in 313 AD, Christianity was recognized by Constantine after Constantine's victory over the Roman Emperor Marcus Maxentius at the Battle of Milvian Bridge, near Rome. In the fourth century, many Mithraists converted to Christianity, and the Christians destroyed all the mithraea and references to Mithraism they could find.

The Jews were familiar with the mystery religions, and practiced such religions themselves. There is also evidence that many Jews participated in Jewish mysteries, which were similar to the pagan mysteries of Greece, Egypt, Persia, and Italy. Philo of Alexandria has described the rituals of the Therapeutae, a strict Jewish religious sect of the first century AD. The rituals were similar to those of Dionysus, involving much drinking of wine as they commemorated the exodus of the Jews from Egypt. Philo, himself, is often considered to have espoused a type of Jewish mystery religion. Philo managed to merge the philosophy of Plato with an allegorical reading of Jewish scripture to produce a unique, mystic synthesis of the two doctrines. What emerged was a philosophy whereby God interacted with the physical world through the Logos. Just as rays emanate from the sun, the Logos emanates from God and is called the Son of God or, more commonly, the Word of God. Philo's mysticism did not recognize a life after death. Upon death, man's reason or soul joins the domain of God. Communication with the Logos takes place in the intelligible world of our reason, and through the Logos we can communicate with God. For Philo, Moses represents the Logos, since Moses brought the word of God to the Jewish people.

Evidence of Jewish mysteries and of the beginnings of Jewish Gnosticism can be found in the Dead Sea Scrolls, especially in those tractates dealing with apocalyptic works and wisdom literature. In many of the Dead Sea tractates there are references to Lightness and Darkness and to Belial, who is the devil. These references are Zoroastrian in nature and do not occur in the Jewish Scriptures. Thus, in the *Community Rule* tractate

we find, “Those born of truth spring from a fountain of light, but those born of injustice spring from a source of darkness. All the children of righteousness are ruled by the Prince of Light and walk in the ways of light, but all the children of injustice are ruled by the Angel of Darkness and walk in the ways of darkness. The Angel of Darkness leads all the children of righteousness astray, and until his end, all their sin, iniquities, wickedness, and all their unlawful deeds are caused by his dominion in accordance with the mysteries of God. Every one of their chastisements, and every one of the seasons of their distress, shall be brought about by the rule of his persecution; for all his allotted spirits seek the overthrow of the sons of light.”

An ancient Jewish mystery sect still exists today. This tradition is known as Kabbalah and had its origin in esoteric and theosophical Jewish beliefs. According to the Jewish historian Max Dimont, “It fed on noncanonized prophecy, Zoroastrian resurrection mythology, Greek science, numerology, gnostic heresies.” Kabbalah can be described as Jewish metaphysics.

It is not surprising then that early Christianity sprang from and was modeled after the Mystery Religions. Just as the initiate into the Mysteries of Isis approached the confines of death, the Christ cult also experienced the confines of death in order to experience the Christ. Saint Paul writes in Rom. 6:3-5, “Do you not know that all of us who have been baptized into Christ Jesus were baptized into his death? We were buried therefore with him by baptism into death, so that as Christ was raised from the dead by the glory of the Father, we too might walk in newness of life. For if we have been united with him in a death like his, we shall certainly be united with him in a resurrection like his.” In I Cor. 2:6-8, Paul writes, “Yet among the mature we do impart wisdom, although it is not a wisdom of this age or of the rulers of this age, who are doomed to pass away. But we impart a secret and hidden wisdom of God, which God decreed before the ages for our glorification.” In Chapter 4 of I Corinthians, Paul says that his congregations are stewards of the mysteries of God. In Rom. 16:25-26 Paul speaks of “the revelation of the mystery which was kept secret for long ages.”

In the inner mysteries, the cult god revealed the secrets of the cult, but the uninitiated were denied the mysteries of the cult. This is mentioned in Matt. 13:11-13 when Jesus tells his disciples why he speaks in parables, “To you it has been given to know the secrets of the kingdom of heaven...This is why I speak to them in parables, because seeing they do not see, and hearing they do not hear, nor do they understand.” Jesus goes on to tell the disciples, “But blessed are your eyes, for they see, and your ears, for they hear. Truly, I say to you, many prophets and righteous men longed to see what you see, and did not see it, and to hear what you hear, and did not hear it.”

In Mark 8:17-21, Jesus scolds the disciples for not understanding the mystery of the feeding of the multitudes. Jesus says, “Do you not yet perceive or understand...Having eyes do you not see, and having ears do you not hear? And do you not remember? When I broke the five loaves for the five thousand, how many baskets full of broken pieces did you take up?” The disciples then reply, “twelve.” “And the seven for the four thousand, how many baskets full of broken pieces did you take up?” They replied, “Seven.” And Jesus said to them, “Do you not yet understand?” It turns out that this riddle can be traced to the Mysteries of Pythagoras.

Many of the early Christian Church fathers mentioned the mysteries connected with Jesus. Saint Ignatius in his letter to the Trallians writes, “The deacons too, who serve the

mysteries of Jesus Christ.” Many letters of the early Church fathers have been preserved. One of these is the epistle *To Diognetus*, which states, “How can anyone, who has been rightly taught and learned to love the Word, not wish to be told the precise nature of the revelations which that Word so openly made to his disciples? Visibly present among them, the Word made His disclosures to them in the plainest of language; though unrecognized by the unbelieving, He discoursed without reserve to the disciples; and because they were reckoned faithful by Him, they came to know the mysteries of God.”

The early Church father, Justin Martyr has written about the Christian initiation and compares it to the Mysteries of Mithras: “Which the wicked devils have imitated in the mysteries of Mithras, commanding the same thing to be done. For, that bread and a cup of water are placed with certain incantations in the mystic rites of one who is being initiated, you either know or can learn.”

Finally, we quote from one of the greatest of the early Church fathers, Origen, in his book, *Contra Celsum*, where Origen answers the charges of the unbeliever Celsus: “And when those who have been turned towards virtue have made progress, and have shown that they have been purified by the word, and have led as far as they can a better life, then and not before do we invite them to participation in our mysteries. For we speak wisdom among them that are perfect...And since the grace of God is with all those who love with a pure affection the teacher of the doctrines of immortality, whoever is pure not only from all defilement, but from what are regarded as lesser transgressions, let him be boldly initiated in the mysteries of Jesus, which properly are made known only to the holy and the pure...Therefore in the comparison which he institutes between the procedure of the initiators into the Grecian mysteries, and the teachers of the doctrine of Jesus, he does not know the difference between inviting the wicked to be healed, and initiating those already purified into the sacred mysteries!” Continuing, Origen writes, “But that there should be certain doctrines, not made known to the multitude, which are (revealed) after the exoteric ones have been taught, is not a peculiarity of Christianity alone, but also of philosophic systems, in which certain truths are exoteric and others esoteric. Some of the hearers of Pythagoras were content with his ipse dixit; while others were taught in secret those doctrines which were not deemed fit to be communicated to profane and insufficiently prepared ears. Moreover, all the mysteries that are celebrated everywhere throughout Greece and barbarous countries, although held in secret, have no discredit thrown upon them, so that it is in vain that he endeavours to calumniate the secret doctrines of Christianity, seeing he does not correctly understand its nature.”

From what Origen writes, there can be no doubt that the Catholic Church of the mid third century was competing with the Greek mystery religions with initiation ceremonies that rivaled the inner mysteries of the Greeks.

I am happy to take your questions and/or comments.

## Transparencies from the Forum: Concepts of the Soul

### Concepts of the Soul from *The Immortal Self*

#### I. Ideas of the Ancients

##### A. Mesopotamia

Upon death, a person's body was confined to the ground.

Not much thought was given to one's fate after death.

There may have been ideas of a shadowy existence in the Underworld, but there was no concept of a soul.

##### B. Egypt

The Egyptians believed in an afterlife, but it is not clear who partook of the afterlife or where the afterlife took place.

During life, the body was accompanied by a *ka*, an invisible body that accompanied the corporeal body throughout life.

Upon death, the deceased appeared before the god Osiris, where the deceased's heart was placed on the Great Scale and balanced against a feather. If the scale balanced, the deceased was admitted to heaven to join his/her *ka*.

Mummification was a way to preserve the body so that it could join its *ka*.

Heaven was a glorified Earth where the deceased could live as in life but without the pains and tribulations of life.

Initially, only royalty and those closely associated with royalty could enjoy the afterlife of a heavenly Earth. The pharaohs and the deities enjoyed immortality. It is not clear whether mere mortals could be immortal. Those who could not afford a mummified burial had no afterlife and no immortality. There was no concept of a soul, as such.

##### C. Ancient Jewish Ideas

The Jewish religion before Babylonian Exile in 586 BCE did not consider the afterlife and the soul. The religion was a sacrificial, temple religion presided over by priests. There was no prayer to a personal god. The god Yahweh was a historical god, a god who had chosen the Jewish people as His people through a covenant with Abraham.

What was important was the Nation of Israel.

One's immortality was assured through one's children and one's children's children.

Genesis 12:2-3 (God speaking to Abraham): "And I will make of thee a great nation, and I will bless thee, and make thy name great; and thou shalt be a blessing: And I will bless them that bless thee, and curse him that curseth thee: and in thee shall all families of the earth be blessed."

**Genesis 17:6 (again speaking to Abraham): “And I will make thee exceeding fruitful, and I will make nations of thee, and kings shall come out of thee.”**

## **II. Greek Ideas**

### **A. Early Ideas**

The earliest idea of a soul can be traced to the mystery religion of Orphism in the sixth century BCE. One of the beliefs of Orphism is that of transmigration of souls. Eventually, one might lead a good life and achieve immortality with the gods.

### **B. Plato**

Plato was one of the first philosophers to put the soul on firm philosophical grounds. Plato did not believe that we can trust our sense experiences. The words and ideas we use to describe our sense experiences were called *Forms* by Plato. These Forms have always resided in our soul. Our task is to relearn these Forms through reason. By reasoning, our souls can be liberated to ascend to the perfect world of *Ideas*.

Aristotle taught that the soul resides outside the body in the realm of the *Divine Form*, which is unchanging, just as the heavens are unchanging.

Saint Thomas Aquinas took the Divine Form to be God.

The influence of Plato’s concept of a soul on western civilization cannot be underestimated.

## **III. The Persian Influence**

Persian religion, especially Zoroastrianism, developed its own beliefs, independent of the Greeks.

From Persia come ideas of Hell and a resurrection of the body after death.

Persian religion was influenced by Hinduism, and there is no evidence that the Greek concept of a soul was part of the religion until the time of Alexander the Great.

## **IV. Second-Temple Judaism**

The Babylonian Exile exposed the Jewish religion to both Greek and Persian ideas. There was a merging of eastern and western ideas to produce a new Jewish religion.

The Jewish god became a personal god to whom one could pray without the intermediary of a priest.

God gives man a soul, which can be reunited with the body at the Resurrection. This is part of the Jewish Eschatology. The Jewish Eschatology is the Great Judgment, when God will send a Messiah, a son of David, to lead the children of Israel.

The destruction of the Temple in 70 CE changed the Jewish religion into a synagogue, rabbinic religion, but the concept of the soul did not change.

## V. Christianity

The Christians carried on the Jewish ideas of the soul and the afterlife with one difference. The Christian Eschatology is different from the Jewish Eschatology. According to Paul (1 Thessalonians 4:16-17): “For the Lord himself shall descend from heaven with a shout, with the voice of the archangel, and with the trump of God: and the dead in Christ shall rise first: Then we which are alive *and* remain shall be caught up together with them in the clouds to meet the Lord in the air: and so shall we ever be with the Lord.”

This Eschatology is the attraction of Christianity: unlike all other religions, acceptance of Jesus Christ as their true savior allows mere mortals to enter the realm of the gods and to be immortal in this realm. This was a radically new idea that was not present in Egyptian, Greek, Roman, Persian, or Jewish religions.

There are many ideas of the fate of the soul immediately after death. Some have the soul residing in vaults guarded by angels until the Resurrection (4 Ezra of the Pseudepigrapha). Some have disembodied souls wandering around an Earth-like heaven (fundamentalist Christian beliefs). Some have souls in bodies wandering around heaven (e.g., Homer in Wiley’s *Non Sequitur*).

## VI. Philosophy of René Descartes

Descartes was a dualist, meaning that he conceived of body and soul as being two completely separate entities. Upon death, the soul joins with God. During life, the soul and body interact through the pineal gland. Descartes has influenced philosophers since the 17<sup>th</sup> century. Modern dualists include David Chalmers, John Eccles, and Henry Stapp.

## VII. Other religions and philosophies

### A. Materialism

Materialists maintain that there is no separate soul. Only the body exists. If there is a self, it resides in the brain. Francis Crick (*The Astonishing Hypothesis*) is a materialist.

### B. Idealism

Idealists maintain that there is no physical body. Only the immaterial soul is real. Bishop George Berkeley was an idealist.

### C. Skepticism

A skeptic maintains that it is impossible to know anything about the soul or how it interacts with the body. The Scottish philosopher David Hume was a skeptic.

### D. Pantheism

God is Nature, and we are all part of Nature. In Hinduism, Brahman is the ultimate reality of the universe, and Atman is the ultimate Self or Soul. The one ultimate reality is that Atman is Brahman. Not only are we children of the universe, we are the universe.

## VIII. The immortal soul from Chapter 7

### A. The materialist soul

If the soul exists in the brain, it must reside in a selected part of the brain. This part of the brain must be distinguished by its unique neuronal wiring pattern (neural network).

Suitable psychological testing using functional MRI should be able to locate the region of the brain containing the soul.

### B. The immortal soul

How can the soul be immortal if it resides in the brain? The immortality of the soul results from its unique wiring pattern. There exist about 100 trillion synaptic connections in the human brain. This averages to about 10,000 connections per neuron. These connections can be permuted among all the neurons to give a very large number of wiring possibilities. Each wiring possibility gives rise to a unique soul.

Based on a Turing Machine analogy, I argue that any given neural network can occur many times in the universe, given the possibility of life occurring among the 100 billion galaxies, each containing 100 billion stars. This makes us essentially immortal, whether we want to be or not!

### C. What are the implications?

If such a view were to be widely adopted, it would render the concept of God superfluous. It would not be necessary to go through God to become immortal. We are immortal simply because we are part of nature.

## Transparencies from the Forum: The Origin of Life

### The Origin of Life

#### I. Early theories of the origin of life

##### A. Greek philosophers—the spontaneous generation of life, known as vitalism.

1. Aristotle (384-322 BC) laid the basis for the theory of spontaneous generation. Matter is energized by the soul to produce living things. Plants come from earth, fish from water, and birds from air. Insects, shellfish, and higher animals come from a combination of earth, water, and air. Aristotle's views prevailed into the Middle Ages.

2. Paracelsus (1493-1541) was a famous physician and alchemist. He claimed that he had observed the spontaneous generation of mice and frogs from a mixture of water, air, straw, and decaying wood.

3. Van Helmont (1577-1644) was a well-known Brussels physician who developed a recipe for the spontaneous generation of mice: Into a vessel place a dirty shirt and wheat germ. Close the vessel and wait 21 days. Open the vessel and voilà—mice appear.

##### B. Spontaneous generation of life theory was overthrown in 1862 by Louis Pasteur.

Most prominent scientists from Newton onward believed in spontaneous generation until the work of Pasteur. Pasteur prepared a nutrient-rich sugar solution and distributed it among several round-bottom flasks. The flasks were identical, except some were directly open to the air through a straight tube, while others were open to the air through a gooseneck tube. The solutions were boiled and allowed to cool. Microorganisms grew in the flasks with the straight tubes but not with the bent tubes.

##### C. Vital force theory—Instead of postulating that life arose spontaneously, it was now assumed that life had always existed.

1. The cosmozoa theory maintains that living organisms were brought to Earth by meteorites.

2. The panspermia theory says that microorganisms are transported through space by pressure from the sun's rays and can move between solar systems.

## **D. Chemical origin of life**

It became clear in the early twentieth century that the problem of the origin of life was really a problem in chemical synthesis. This is best shown in Oparin's book, *Origin of Life*.

## **II. Formation of Earth**

**A. Hadean Eon extended from 4.5 bya (billion years ago) to 3.8 bya. The Earth was molten. A solid crust formed 3.8 bya.**

**B. Archean Eon extended from 3.8 bya to 2.5 bya.**

**1. Eoarchean Era extended from 3.8 bya to 3.6 bya. The earth was covered with water. Hydrothermal vents appeared on the sea floor.**

**2. First continent, Vaalbaria, appeared 3.6 bya at the North Pole.**

**3. First life in the form of stromatolites appeared 3.5 bya.**

## **III. Modern theories of the origin of life**

### **A. The prebiotic soup theory**

Stanley Miller and Harold Urey in 1953 sparked a mixture of water, methane, ammonia, and hydrogen and got a broth of amino acids.

### **B. Clay World**

In 1966, A. G. Cairns-Smith speculated that the first life originated on the surface of clays. The crystal structure of clays could dictate the growth of organic molecules and explain the observation of right-handed sugars and left-handed amino acids.

### **C. RNA World**

Thomas Cech and Sidney Altman in the 1980s discovered an autocatalytic RNA molecule called a ribozyme. A ribozyme enclosed in a lipid membrane could catalyze the formation of RNA molecules, thus forming the first cell.

### **D. Iron-Sulfur World**

Hydrothermal vents were discovered in 1977. In 1988, Günter Wächtershäuser published his theory based on chemistry at black smokers. Life began as two-dimensional arrays of organic chemicals on the pyrite surface of black smokers. He showed how both sugars and amino acids could be formed.

## **E. Pyrophosphate World**

**Because phosphate is essential for the formation of phospholipid membranes and the formation of nucleotides, it has been proposed that life originated in tidal pools in the presence of sunlight. The sunlight promoted the formation of energy rich pyrophosphate, which hydrolyzed to give the energy necessary to form RNA, amino acids, and membranes.**

## **IV. A new approach**

### **A. Basaltic Pores (200 million years)**

**1. Life began in porous basalt on the flanks of black smokers. It was protected from the environment. The surface tension forces in the pores dictated the chemistry that occurred. The energy for the chemical reactions came from the formation of pyrite.**

**2. Chemicals that could have been made include simple sugars, amino acids, and amino acid polymers.**

### **B. Tidal pools (100 million years)**

**1. Upon uplift of the sea floor, the porous basalt was exposed to sunlight and pyrophosphate. This gives us the Pyrophosphate World.**

**2. Chemicals that could have been made include RNA, DNA, proteins, and phospholipid membranes.**

**3. Bacteria then developed.**

## **V. Proposed experiment**

**A. Simulate hydrothermal-vent environment (150°C and 300 atm pressure) in a batch reactor in the presence of silica sol gel or porous basalt.**

**B. Analyze products by Raman spectroscopy, chromatography and mass spectrometry.**

**C. Later experiments will add pyrophosphate to the solution at ambient temperature and pressure. Check for lipid membranes. Can life forms be far behind?**