Ancestor worship must be an appealing idea to those who are about to become ancestors.

Stephen Pinker

Introduction

Karol Józef Wojtyła was a frail 84-year-old who could barely walk because of his osteoarthritis. He suffered from Parkinson's disease, which left his speech slurred and his memory failing. His increasing deafness made it difficult for him to understand others. He had experienced a cardiac arrest and a near-fatal shooting, and had had a colostomy. He eventually suffered multiple organ failure and sepsis, and died on April 2, 2005. At the time of his death, Karol Józef, otherwise known as Pope John Paul II, was the leader of an estimated one billion Catholics worldwide (the world's largest religion) and had spent nearly 27 years viewed by those Catholics as "God's representative on Earth." An estimated four million people attended his funeral, which included a record number of heads of state ever to attend such an event.

At the age of two years, Llamo Thondup's family received a visit from a Buddhist delegation in their tiny village of Takster in Tibet. Llamo was the fifth of 16 children born to a farming and horse-trading family. On being shown items belonging to the Thirteenth Yellow Hat Dalai Lama the two-year-old evidently exclaimed "They are mine! They are mine!" at which point he was declared to be the Fourteenth Dalai Lama and, therefore, the

Adieu to God: Why Psychology Leads to Atheism, First Edition. Mick Power. © 2012 Mick Power. Published 2012 by John Wiley & Sons, Ltd.

reincarnation of the Buddhist god of compassion. At the age of four he was taken to the Potala Palace in Lhasa and began his studies of Buddhism, though a meeting at age 11 with an Austrian mountaineer (played by Brad Pitt in the Hollywood film, *Seven Years in Tibet*) clearly broadened the young boy's knowledge of the outside world.

Emperor Hirohito of Japan was born with what many might consider to be a definite advantage in life. Because of his divine descent from the goddess Amaterasu Omikami, Hirohito was an absolute deity within the beliefs of the Shinto religion. His declaration of war against the USA was therefore viewed as the act of a god against a secular power, such that the Japanese could not envisage defeat. However, a few days after the dropping of the atomic bombs Little Boy on Hiroshima and Fat Man on Nagasaki on August 15, 1945, the Americans forced Hirohito to make a radio announcement in which he had to reject the Shinto claim that he was an incarnate deity. Many Japanese did not believe the announcement and continued to believe that the Emperor was a deity until his death in 1989, even though supernatural power clearly lost out to atomic power on this occasion.

These three short case studies are presented to illustrate that even in the present age of reason and science there are those who believe that there are deities or near-deities who walk among us. Many people in the West, even those who are strongly religious, tend to think that beliefs in incarnate deities are quaint and archaic, like the medieval kings who presented themselves as gods to their peoples. Yet the Dalai Lama, who seems to have become a superstar in the West, regularly visits presidents and prime ministers and appears on television chat shows while believing that he is a deity. Charm and a very disarming smile do not, however, make the Dalai Lama a deity.

What we will examine in this book is how beliefs such as these arise in the first place and what allows the beliefs to be sustained in the face of possible disproof. If they were gods, a mere secular power would not be expected to be able to overcome them, yet both Emperor Hirohito at the hands of the Americans and the Dalai Lama at the hands of the Chinese have suffered major and unexpected defeats during their lifetimes to mere secular powers. Surely these defeats should have persuaded their followers that perhaps they are not deities after all?

Whatever protects their followers' beliefs from evident disproof is a question that psychology must address. Moreover, the question of current and recent human deities gives us access to possible tests of religious beliefs in a manner that is not available for most religions, because many of these are based on long-past deities and prophets who now exist only in memory or,

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

in some cases, only in fantasy. We might try to put to the test the Catholic religion's belief that the Pope is God's representative on Earth. The Pope, however, is unlikely to subject himself to such proof or disproof because of his belief that ultimately *faith* is stronger than reason. Furthermore, the apparent disproofs that do not fit with existing beliefs seem to be easily rejected. As psychologists such as George Kelly and philosophers such as Karl Popper have emphasized, we are all too good at collecting evidence *for* our beliefs, but extremely poor at seeking out evidence *against* our beliefs. We will examine these powerful confirmation biases in later chapters, but in the remainder of this chapter we will try to understand something of the history and cultural context for the different types of religious belief and examine why some religious systems have come to be predominant over others.

The overall structure of this book will first begin with a very brief skim over the history of religion from the earliest animistic religions to the polytheistic and then to the monotheistic. This summary will include brief points about the challenges presented to world religions by advances in the sciences. A reader who is familiar with or even an expert in this history may wish to jump straight to Chapter 2, where we begin an examination of everyday psychological experiences that often lead people towards religious explanations for such experiences. When these are added to the more unusual experiences of some religious mystics that we detail in Chapter 3, we have to conclude that there is a considerable body of common and uncommon experiences for which religions provide often very comforting explanations, especially when those experiences might be frightening or overwhelming. In Chapters 4 and 5 we will examine some of the social structures that are present both in religious institutions and in beliefs about the gods. As William James did in 1902, we will consider some of the more negative features of religious institutions, but we will not forget the many positive benefits that membership of such institutions can also provide. These positive benefits for health and well-being come more to the fore in Chapter 6, when we examine exactly what the evidence shows for such health and longevity benefits from religion. The conclusion of the review is that religion is the ultimate curate's egg. There can be many benefits, such that the poor honest atheist may well be disadvantaged by comparison, but there can be many disadvantages too. In the final chapter, Chapter 7, we therefore attempt to summarize the key benefits of religion and spirituality, and consider what the atheist might do in order to achieve benefits of a similar nature. In the remainder of the present chapter we provide a very brief summary of the history of religions to set the appropriate context for

Auteu to Gou

subsequent discussion for those readers who may not be familiar with all aspects of this history.

The Gods of Thunder

All cultures at all times in recorded history have developed complex belief systems that involve one or more supernatural powers that need to be worshipped through religious rituals. Freud (1927) famously referred to these developments as the universal obsessional neurosis in his essay The Future of an Illusion. Freud's analysis will be considered in more detail later, and, as we will see, although it may have some applicability to the role of the father in the monotheistic religions, it has much less relevance to the polytheistic and animistic religions. The Victorian anthropologist Edward Tylor was a strong proponent of animism as the origin of religious beliefs. He interpreted primitive religion as being based on the belief that everything in the Paleolithic period possessed a soul. The sociologist Emile Durkheim had considered totemism (a word derived from an Ojibwa Algonquin tribal word *ototeman*, which indicates a blood relationship) as the likely origin, in which the totem animal is considered to be the ancestor of the group. Later anthropologists, however, such as Edward Evans-Pritchard and Claude Levi-Strauss, strongly disputed totemism as an explanation of the development of religion. Levi-Strauss's classic work The Savage Mind (first published in French in 1962) emphasized the continuity between the "primitive" mind and the "modern" mind. We will emphasize this continuity throughout the book as we consider historical, cross-cultural, and developmental clues to religious belief.

One of our great evolutionary advances is the human capacity to seek to understand and find meaning and repeating patterns in the world around us. But this capacity can sometimes lead us to be easily fooled into finding patterns and associations where none in fact exists. The development of superstitious behaviors is a classic example: most people have superstitious beliefs which may be more evident under times of stress. If, when a child hears thunder, she repeats the words, "Mother save me, Mother save me," to herself and then she survives the storm, she may come to believe that the words have a magical and protective power and that she must repeat these words whenever she hears the sound of thunder. These superstitious learned associations are very common in childhood, and developmental psychology demonstrates to us that children have many such magical and animistic

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

beliefs. Harry Potter is not popular because he is a fictional character, but rather because children identify with him and wish to have his powers in order to defeat the evil around them. The earliest animistic belief systems seem to share much with the beliefs of children in that they hold that supernatural forces exist in any animate or inanimate object and that beliefs in these forces help people to understand and ultimately to control and protect themselves against them.

In her excellent overview of early belief systems, Karen Armstrong (2005) in A Short History of Myth organizes myths into three periods: the Paleolithic period (20000 to 8000 BCE) when myths were focused on hunting, the Neolithic period (8000 to 4000 BCE) in which myths related to farming, and the Early Civilizations (4000 to 800 BCE) when the large state religions came into being. Archeological excavations have shown that the Paleolithic hunter-gatherers made animal sacrifices; the cave paintings in Lascaux and in Altamira highlight the significance of the hunt in the Paleolithic period with depictions not only of the hunted animals but also of their hunters wearing animal head-dresses. The hunt was an especially dangerous time, and the emergence of individuals with special powers, the priest-shamans, seems to have occurred partly as a result of the desire to bring good fortune to the hunters and to protect them from danger. The myths of this period also focus on difficult-to-understand natural forces, among them the cycles of regeneration for plant life, the "regeneration" of the heavenly bodies such as the sun and the moon, also on regular cycles, and the experience of powerful natural phenomena such as lightning, thunder, volcanoes, and hot springs. All of these external natural phenomena required explanation. The sky was a source of particular fascination and incomprehension, and most of these early groups seem to have developed myths about one or more sky gods.

In addition to the puzzlement with the external, Karen Armstrong also points to the importance of the *internal* even for these early Paleolithic groups. Anthropologists point to societies such as the Australian aborigines, who still live as hunter-gatherers and who have not developed agriculture, as providing possible insights into the belief systems of earlier Paleolithic groups. Australian aborigines believe that, in addition to the day-to-day reality in which we live, there is a parallel reality or "Dreamtime" in which the ancestors live and out of which all cycles of creation emerge. Some living individuals are believed to have special powers to communicate between the two, though all people experience both realities through dreaming. Interestingly, it is believed that the child's eternal spirit enters the fetus around the fifth month of pregnancy when the pregnant woman first experiences

the child's movements in the womb. We will of course consider the importance of internal experience in religious belief in much more detail in later chapters.

These early Paleolithic animistic belief systems already present us with a repeating structure and an attempt to explain a combination of phenomena external to the individual and a set of phenomena internal to the individual. The external phenomena include repeating cycles such as the daily movement of the sun, the monthly changes in the moon, and the seasonal changes in plant and animal life. In addition to these cycles of creation, of birth, death, and re-birth, there are also one-off and unpredictable external events such as storms, droughts, volcanoes, and earthquakes. Predictable cycles also occur in the internal psychological experiences such as in waking, sleeping, and dreaming, but internal experiences also include one-off and unpredictable events that can cause pain and that warrant explanation. These unpredictable experiences include injuries, diseases, and the deaths of loved ones. The pain of grief at the loss of a loved one, especially the loss of one's child, can be overwhelming for the individual, so it would be normal to seek solace and explanation from someone with special powers in the group, such as a priest-shaman, who can offer a system of explanation and even a continuing connection to the lost significant other.

The priest-shaman has clearly played an important role through all religions, even in the earliest animistic ones. Although the term "shaman" arises from a word used by a nomadic Siberian group, the term is now generally used to describe a whole range of witch-doctors, medicine men, sorcerers, and so on. They are people with special powers and experiences, which can include trance states, drug-induced hallucinations, and dreamlike phenomena that are used as evidence that they can communicate from everyday reality to a supernatural reality such as in the Australian Aboriginal Dreamtime. Shamans became the holders of oral knowledge and tradition, such that in some societies the special knowledge would be passed from father to son. In whatever form the knowledge is retained and passed on from generation to generation, these oral traditions were the beginnings of our modern religious institutions and the claims of prophets and preachers that they have insight into the eternal and supernatural truths.

The Neolithic Period (c. 8000 to 4000 BCE)

The first agricultural communities were faced with different problems and demands than were the early hunter-gatherers, such that religious beliefs

and practices began to change. About 10 000 years ago the first farming communities developed and began to replace the smaller nomadic huntergatherer groups with larger communities in settled locations. Awareness developed of the cyclical nature of farming, and a belief arose that there was a spiritual power that was locked in seeds and fruits that allowed them to burst into life, a process typically accompanied by appropriate spiritual and practical rituals. The generative power of the earth was recognized and therefore its power was replenished both with fertility rituals and, in some societies, with human sacrifice. For example, ritual fertility orgies could accompany the planting of seeds in springtime, in which the earth (which in many cultures came to be seen as mother earth and subsequently begat mother-goddesses) was considered to be implanted with the sacred seeds or semen and the same process of generation and birth occurred for both. As Karen Armstrong (2005) notes, interestingly the Bible presents evidence of these early fertility orgies in ancient Israel because the prophets implore their people to stop practicing them:

Then shall ye know that I am the Lord, when their slain men shall be among their idols round about their altars, upon every high hill... and under every green tree, and under every thick oak, the place where they did offer sweet savour to all their idols. (Ezekiel 6:13)

Thou hast moreover multiplied thy fornication in the land of Canaan unto Chaldea; and yet thou wast not satisfied herewith. (Ezekiel 16:29)

Thus I will cause lewdness to cease out of the land, that all women may be taught not to do after your lewdness. (Ezekiel 23:48)

You just have to read the whole of the book of Ezekiel to learn how the early Israelites seem to have combined adulterous fornication with the extensive worship of false idols and from this to get a sense of the pre-Abrahamic fertility cults and practices that the monotheistic religions have gone to great lengths to eliminate.

The early creation myths see humans as originating from the earth in the same manner as plants and trees, which, given modern evolutionary theory, is a view not as wide of the mark as the monotheistic religions might originally have had us believe. Farming was therefore a *spiritual* activity in which earth and sky (in particular through rain and sun from the sky) combine to create all forms of life. This marriage of earth and sky can be seen in the Assyrian earth-mother goddess Asherah (the Hebrew name for

Athirat) who was the wife of El, the High Almighty sky god, who himself seems to have been the key predecessor of the Jewish Yahweh and whose name was even incorporated into the name Isra-*el*. The god Baal, who was worshipped by many early Israelites and by the Canaanites, was a fertility god also called the god of rain. From these we can see the practical nature of many of the early polytheistic religions, with their crucial links to cycles of farming and survival and the constant battles against death and the gods of destruction.

In terms of social structures, these early agrarian societies typically came to be organized as "chiefdoms." Widespread examples of such social organization have been studied by anthropologists in agrarian societies in Polynesia, Africa, and the Americas. Explorations of the Pacific Islands during the eighteenth and nineteenth centuries were illustrated by numerous accounts of the power of the chiefs in such chiefdoms, who in many cases held a near god-like status among their citizens (see, for example, Wright, 2009). These chiefs were imbued with special *mana*, a supernatural-type power that gave them rights and ownership and allowed them to set the *tabus* (the origin of the word taboo) for the groups that they ruled. In many cases, the chiefs were both the religious and political leaders of the group and thereby developed the power of the shaman into that of political and social power also. However, in groups where the chief was not the leading shaman, the two worked closely together to invest power in each other.

The Early Civilizations (c. 4000–800 BCE)

There are few ancient civilizations that retain the fascination of the Ancient Egyptians. The pyramids at Giza are one of the most highly visited tourist sites on Earth with an estimated three million visitors each year. Rosalie David's book *The Ancient Egyptians* (1998) provides one among many overviews of the growth of religious beliefs in Ancient Egypt through its Predynastic, Old Kingdom, Middle Kingdom, and New Kingdom phases. The Predynastic period begins around 5000 BCE with Neolithic farming communities beginning to settle along the banks of the Nile. The river's annual cycle of inundation and retreat provided a rich source of fertile land along its banks in a country that otherwise had too low a rainfall to sustain such farming communities. This dependence on the cycle of the river Nile therefore became central to Egyptian myth and religious belief. These Neolithic communities seem to have been organized in the form of the chiefdoms typical of agricultural communities until around 3100 BCE following a possible new group of arrivals, the so-called "Dynastic Race," into

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

Egypt, probably from Mesopotamia. From this period on there is a flourishing of art, architecture, and writing within Egypt. The Upper (Southern) and Lower (Northern) areas eventually came to be unified initially under the Upper Egyptian king, Scorpion, and were completed by his successor, Narmer (also known as King Menes). The first dynasty of the Old Kingdom therefore begins with Narmer. As part of the unification, Narmer moved his capital from the city of This in Upper Egypt to Memphis in Lower Egypt, though the city of This continued as an important religious centre.

The Predynastic and Early Dynastic Egyptian burial practices provide most information about the religious beliefs of this period. The fact that the dead were carefully buried with a variety of personal possessions and food points to a belief in life after death. The inclusion of amulets for magical protection with the bodies became increasingly common. These were shaped as animals such as the crocodile, the snake, and the falcon. The body was buried with the head to the south and looking to the west. Initially, chieftains were given similar graves to their subjects, but with the appearance of the Dynastic Race more elaborate tombs came to be built for the ruling classes. The style that emerged for the noble burials in the early period continued the burial below ground, but increasingly elaborate buildings were built above ground in which the initial funerary practices were carried out. The careful burial of certain animals such as cows and jackals also indicates the development of animal cults in these early communities.

Like many Neolithic farming communities, mother earth and the mother goddess came to be worshipped, the early Egyptian goddess taking the form of a cow and early painted pottery depicting her with a human head and cow's horns. Some of the graves indicate that the leaders were considered to be possessed of magical powers because special implements were included that were used in ritual magical fertility practices. By the time of Scorpion and Narmer's unification of Upper and Lower Egypt, the god of fertility, Min, was one of the key gods. He was typically represented as black (the colour of the fertile mud of the Nile) and ithyphallic (having an erect and uncovered penis), such that early Christian explorers often defaced his monuments and, with the introduction of photography, he would only be photographed from the waist upwards. Worship of the sun god, Ra, also seems to have started in the Predynastic period. His form and importance continued to develop throughout Egyptian history, and Ra (or, in the later form, Aton) became the major god in the Egyptian pantheon. His main cult centre was Heliopolis (originally "Iunu"), close to modern Cairo. Other well-known gods from the Old Kingdom period include Osiris, Seth, Isis, and Horus, who are linked together in a death and regeneration myth that

reflected the annual inundation and retreat of the Nile and the growth of crops. In this myth, Osiris was originally a human king who was murdered by his brother Seth and his body was scattered throughout Egypt. Isis, who was both Osiris's wife and his sister, collected the pieces of his body together and restored them by magic, with which she conceived their son Horus. Eventually, Osiris became the king of the Underworld, with Horus identified with the living king of Egypt, and Seth came to represent all that is evil in the world.

The Old Kingdom (dynasties III to VI, from 2686 to 2181 BCE) sees the king become a near-divine being who is the son of a god but born to a human royal mother (here one already sees echoes of the "virgin birth" in the Christian mythology of Jesus as the son of a human mother and a divine archangel). This unique birth gave the king the central role as the intermediary between the gods and humans. However, in order to maintain the succession, the eldest daughter of the ruling king and queen normally became the wife of the next heir, which was usually her brother or halfbrother. The king, as a divine being, owned all the land and the people of Egypt, and the successful passage of the dead to the afterlife came to be seen as dependent on the good will of the king. The Old Kingdom also saw the building of the pyramids, with the first step pyramid at Saqqara being designed by Imhotep, vizier to King Djoser. Imhotep was also known as a great healer. Under his Greek name, Asclepius, he became the god of medicine, and he is the likely origin of the "Great Architect of the Universe," which is the name given to the god of the Freemasons. He became the only non-royal to be elevated to divine status in later Egyptian history. The famous step pyramid at Saqqara was the first of the great pyramids; it stands 62 metres high, it is oriented east-west, and it consists of six giant steps, which are believed to permit the ascension of the king to join the sun god Ra in the celestial barque as he makes his daily journey across the sky. Although the later pyramids at Giza did not have the step structure, the builder of the Great Pyramid, King Cheops, covered his pyramid in white limestone which was believed to focus a ray of sunshine along which the king could travel back and forth between the heavens and his burial place. The original Egyptian name for pyramid ("pyramid" is the later Greek name now in common parlance) was "Mer," which has been translated as a "place of ascension" (again one can note resonances with the ascension of Jesus into heaven from the Mount of Olives near Jerusalem). While on the subject of the etymology of well-known Egyptian words, subsequent kings of Egypt came to be known as pharaohs because the royal residence in Memphis

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

or "Great House" was called the "Per Wer" in Egyptian, a name that was eventually applied to the king himself.

The Egyptian Middle Kingdom and the preceding "First Intermediate Period" ran from about 2181 BCE to 1786 BCE and covered dynasties VII to XII. The decline of the power of the pharaohs at the end of the Old Kingdom changed religious beliefs and practices in that successful passage to the afterlife was no longer considered to be dependent on the gift of the pharaoh but instead came to be considered as based on the actions of individuals themselves such as in the observation of appropriate rituals and worship of the gods. Because of the significance of Osiris, in that he was murdered but then resurrected, his cult became of increasing importance in the Middle Kingdom period. Abydos, near to This in Upper Egypt, became a pilgrimage centre for the Osiris cult because Osiris' body was believed to have been buried there and therefore his resurrection would increase the likelihood of the resurrection of the pilgrims to his cult centre. An annual cycle of mystery plays that presented the birth, death, and resurrection of Osiris were enacted at Abydos by the priests. The eternal paradise, which now became the dream of all, was known as the "Field of Reeds," in which there was permanent springtime with lush and abundant harvests that never failed. It is remarkable how the conceptualization of paradise simply represented an easier version of life on Earth. As someone who hates gardening (presumably in common with many later theologians of the afterlife), the idea of having to grow and harvest crops for the rest of time would, I have to confess, come closer to hell than to heaven for me.

The Egyptian New Kingdom and its preceding "Second Intermediate Period" ran from about 1786 BCE to 1085 BCE and included dynasties XIII to XX. Thebes in Upper Egypt became an important centre of power, and the local god Amun had been worshipped there since at least Dynasty XII. In fact, Amun incorporated the older sun god Ra and thereby acquired the sun god's powers. The priests at Thebes further developed the power and the cult of Amun, who was now presented as the "king of gods" in that he ruled all other gods. Thebes therefore became Egypt's most important city in this period, and the associated temple complex at Karnak still stands as one of the greatest engineering achievements of all time. The development of the priesthood at Thebes and Karnak saw the increasing power of the priests in comparison with that of the pharaohs. This led to growing conflict in the reign of the pharaoh Amenhotep III in the eighteenth dynasty, the climax of this conflict occurring in the reign of his son Amenhotep IV. In fact, the religious crisis that occurred during the reign of Amenhotep IV

could lay claim to being one of the most significant events in the history and development of religion.

Amenhotep IV suffered the ignominy of being struck out of the Egyptian chronology by his successors, hence little was known about him until the discovery in the nineteenth century of his new city of Amarna, excavated by Flinders Petrie. Amenhotep's chief wife, Nefertiti, was famed for her beauty. Recent DNA testing has confirmed that he was the father of one of the most famous of the pharaohs in modern times, Tutankhamun (who was named Tutankhaten at birth but, with the subsequent rejection of his father's Aten-based religion, changed his name to Tutankhamun to indicate his endorsement of the older Amun-based religion). Within a few years of becoming pharaoh, Amenhotep IV changed his name to Akhenaten, he developed a monotheistic religion that rejected Amun and other Egyptian gods, and he replaced these with the Aten (his new name Akhenaten means "Servant of the Aten"), who was a single sun god and who also incorporated the older sun god Ra. Historians and anthropologists have referred to Akhenaten as the "first individual in history" because of the range of reforms that he brought about not only in religion but also in the arts. We will return to the importance of Akhenaten in the development of the monotheistic religions in the next section. For Egypt, subsequent notable events include the Greek conquest of Egypt under Alexander the Great in 332 BCE, with the establishment of the Greek Ptolemaic pharaohs. Cleopatra was the last of the Ptolemaic pharaohs, following the Roman conquest of Egypt in 30 BCE.

The focus in this section has been placed on the Ancient Egyptians, but of course there were many other significant religions that developed in the period of the early civilizations. One such key religion that, unlike the Egyptian religion, still exists today is Zoroastrianism, which has an estimated 200 000 followers, the majority of whom live in India and are known as Parsis ("the people of Persia"). The founding leader, Zoroaster (the Latin version of Zarathrustra in the original language), is believed to have lived at about 1400 to 1200 BCE (see, for example, Mary Boyce's 2001 book Zoroastrians) and he may have lived near the Caspian Sea in North Western Kazakhstan. One warning for would-be modern-day gurus though is that, apart from his wife and children who clearly had little choice, Zoroaster is said to have converted only one person in his own village to his new religion, and that was his cousin-hence the saying, "You are never a prophet in your own town" (though we must note that Jesus of Nazareth had a similar problem in failing to convert people in his home town of Nazareth, and that Muhammad did not convert the people of his hometown Mecca until he returned from

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

Medina with an army that forced the Meccans to listen to him). Fortunately for the spread of Zoroastrianism, Zoroaster eventually began to travel and Zoroastrianism became the main religion of Iran and surrounding areas until the later spread of Islam almost led to the extinction of the religion.

Zoroastrianism provides an interesting intermediate religion between early animism plus polytheism and the later development of the monotheistic religions. Following a divine revelation at the age of 30, Zoroaster composed a set of holy songs, the "Gathas," which are the earliest surviving scriptures, though later scriptures have been collected into the "Avesta." The main god is "Ahura Mazda" ("The God of Wisdom"), whom Zoroaster saw or heard the voice of many times in divine revelation. Ahura Mazda declared himself to be the divine creator of all that is good and of the other good deities. There is, however, an equally powerful leader of the bad deities, Angra Mainyu, who presides over hell. It is the purpose of all humans to choose between these two equally powerful forces of good and evil. This split between good and evil is an important one psychologically, and is a theme that recurs in Judaism, Christianity and the dualistic Manichaeism of the followers of the religious leader Mani in the third century CE. The links in Zoroastrianism to earlier animistic beliefs are represented in the importance of fire, sun, and water for the religion, to the extent that Zoroastrians are sometimes referred to as "fire worshippers." The Zoroastrian temples came to have sacred fires that were kept permanently burning in them; these fires are attended to by the priests and it is estimated that some of the oldest extant fires have been kept burning continually for many hundreds of years. The religion also has important beliefs about purity, such that dead bodies cannot be buried in the earth for fear of contamination and are typically left exposed in funerary towers, nor is washing allowed in rivers or lakes because it would contaminate the sacred water. Any flow of blood was also seen as impure, therefore women were segregated and not allowed to engage in daily activities during their menstrual blood flow.

The Rise of Monotheism

Origins

The development of monotheism under the Pharaoh Akhenaten, who reigned from about 1353 to 1336 BCE, provides one of the key turning points in the development of religious belief. Akhenaten abandoned

the previous Egyptian gods such as the powerful Amun-Ra and destroyed their temples. He moved his capital city from Thebes, where the priests of Amun-Ra were extremely powerful, and founded a new capital city at Amarna (Akhetaten) on the east bank of the Nile (in contrast to the preferred use of the west bank for most earlier Egyptian cities). The Aten had originally been considered as a minor god who had represented one aspect of the sun god Amun-Ra, that is, of the sun disk itself, but now Aten was elevated to being the sole creative force. Akhenaten wrote, in his Great Hymn to the Aten, "O sole God beside whom there is none," which many scholars have seen as the origin of Psalm 104 in the Bible ("Who coverest thyself with light as with a garment: who stretchest out the heavens like a curtain: . . . who maketh the clouds his chariot: . . . who maketh his ministers a flaming fire" Psalms 104:2-4). Of course, there were certain personal advantages to Akhenaten's declaration that the Aten was the one and only god: not only did he eliminate the powerful priesthood of Amun-Ra in Thebes, but he reasserted his own divinity in that he was the sole intermediary between the Aten and mankind.

The significance of the Egyptian Pharaoh Akhenaten in the rise of monotheism seems to have been underplayed by many commentators on the history of religion. However, commentators with a Judaeo-Christian background can perhaps be understood to have taken the view from the Book of Exodus in The Bible that the Egyptians were the bad guys and that nothing good could have come from them. The prophet Moses is seen as the good guy who led the Israelites out of slavery in Egypt to the "promised land," who gave them their new monotheistic religion after conversations with Yahweh on Mount Sinai, but who died before he made it to the promised land himself. As an aside, there is an interesting link here to animism and polytheism, with Yahweh originating as a volcano god, and the translation as "Jove" in the Roman pantheon of gods, who, among other things, was the Roman god of thunder.

The problem with the biblical account of the Exodus from Egypt is that there is little or no historical or archeological evidence to support the idea that Moses led 600 000 men plus women and children out of Egypt into Sinai where they wandered for 40 years. Sigmund Freud in his book *Moses and Monotheism* (1937) made the interesting proposal that Moses was actually an Egyptian and had been a priest or other senior figure within Akhenaten's loyal supporters. When Akhenaten died, the brief reign of Smenkhkare, quickly followed by the reign of the 9-year-old Tutankhamun, led to the re-establishment of the previous gods and the persecution and attempted

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

elimination of the monotheistic Atenism. Freud proposed that Moses managed to escape persecution and then led a small group of Atenists into Canaan, where eventually the Aten religion provided the foundations for biblical monotheism, and the sun god joined forces with the god of volcanoes to become the all powerful Yahweh. Freud's proposal has of course been disputed by many historians and archeologists because, for example, the earliest settlements of the Israelites seem to date from just after the reign of Rameses II (who ruled 1279-1213 BCE). If there were any truth in the Exodus, the period that has better support from the evidence is at least a hundred years after Akhenaten's death. However, it seems a mistake to think that Atenism simply died out after Akhenaten's death and its subsequent rejection by his son Tutankhamun. There may well have been secret worshippers and priests of Aten, especially in the sun god's temples in Heliopolis, whose teachings spread northwards through Sinai and into Canaan at around the time of the first Israelite settlements. Freud also makes the interesting observation that circumcision, which is an obligatory practice for both Jewish and Islamic believers (though it did not catch on in Christianity because the Greek and Roman "gentiles," who were the targets of St Paul's proselytizing, found the practice repulsive, not to mention painful and dangerous), originated as an ancient Egyptian custom, though the Bible for obvious reasons avoids any mention of this link. However, the fact that Judaism took the practice of circumcision from the ancient Egyptians lends weight to the proposal that they took other practices from the Egyptians such as monotheism too. A further point that Freud and others have noted is that the name "Moses" is an Egyptian rather than Hebrew name, though its closest links in the eighteenth and nineteenth dynasties seem to be to "Rameses," which would strengthen the interpretation that Moses and the Exodus were linked to this later period. We might also note the speculative origin of the "Amen" proclamation that is made during prayers and religious services, with its possible links to the Egyptian god Amen.

The Abrahamic Monotheisms

Whether or not it was Atenism that was the catalyst for the growth of monotheism among the Israelites from 1200 BCE onwards, we must ask the question as to why the polytheist Israelites of the early Bible eventually abandoned their polytheism in favour of the monotheism based on the creator god, Jehovah. Moreover, this monotheism provided the foundation for the other two great monotheistic religions, Christianity and Islam, who

also accept the Old Testament as part of their holy scriptures. All three of these monotheisms are referred to as the Abrahamic religions. Abraham is considered as the founding patriarch of the Israelites, who trace their lineage through his son Isaac by his wife Sarah, and therefore Christians also take Abraham as the founding patriarch because Jesus was a Jew. In contrast, Muhammad traced the origin of Islam through Abraham's other son, Ishmael, by his wife Hagar, and of whom Muslims claim that Muhammad was a direct descendant. Abraham is famous in the Book of Genesis for the story in which he makes his son Isaac carry a stack of wood up to the top of a mountain and then ties Isaac to the wood and is about to burn him because God told him to do so. Fortunately for Isaac and the future Israelites an angel intervened at the last moment and provided Abraham with a ram to sacrifice instead. The Muslim belief is that Abraham founded Mecca and built the Muslim centre of worship, the Kaaba. This is now a pillar of Islam, with the expectation that all Muslims will make a pilgrimage, or *hajj*, to visit it. The Islamic festival of Eid is a re-enactment of Abraham's near-sacrifice of his son, though again Islamic sons, fortunately for them, are replaced by sheep or goats for ritual sacrifice and consumption.

One of the first problems to arise with the Abrahamic account of monotheism is that the Jewish traditional dating for Abraham is somewhere between the nineteenth and seventeenth centuries BCE. However, the writing of the first five books of the Bible, the Pentateuch (Genesis, Exodus, Leviticus, Numbers, and Deuteronomy) is thought to have begun in the eighth century BCE under King Hezekiah and in the seventh century BCE under King Josiah, then not completed until the Israelites returned from exile in Persia somewhere between 500 and 450 BCE. By the time of the completion of the first five books of the Bible, therefore, Jewish monotheism had been long established, so the biblical accounts of the rise of monotheism include a substantial rewriting of Jewish history in which the polytheism of the early Israelites is minimized and the role of the great prophets Abraham and Moses is maximized, especially in their mythical conversations with the one god, Yahweh. What we must ask, however, is, if we trace the origins of monotheism to Egypt and to Akhenaten instead, what were the psychological, social, and political advantages for a shift to monotheism in a minor tribe such as the Israelites, and why did monotheism develop and flourish with this minor tribe when it failed to develop in the powerful Egyptian civilization?

The question of the development of monotheism from polytheism is not therefore one of truth versus myth, but of psychological, social, and

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

political advantage. The Egyptians were a powerful, long-established, complex civilization, and were feared by all small surrounding tribes such as the Israelites. As noted earlier, whether or not the Israelites were taken into slavery in Egypt and Moses led them out during the Exodus, the influence of Egyptian ideas was extremely powerful and it is clear that many of the Judaeo-Christian beliefs such as those relating to Paradise, resurrection, the afterlife, the soul, and, we argue, of monotheism itself originate in Egyptian beliefs. What the monotheism of Yahweh offered the Israelites was a rejection of other non-Israelite gods as false gods, the knowledge that they believed in the one true god, and the certainty that they were God's chosen people. A small, weak, and inferior tribe was thereby able to elevate itself above all the great civilizations that had threatened or conquered it in the past, as well as those great civilizations that were to conquer it in the future, and to assume a position of superiority both psychologically and socially. Robert Wright in his book The Evolution of God (2009) and other writers have argued that the Babylonian conquest of Israel in the sixth century BCE with the destruction of the Temple of Solomon in Jerusalem was a cataclysmic experience for the Israelites that pushed them completely into monotheism as a way of coping with the ignominy of defeat and of exile and subordination in Babylon, while believing that they were the chosen people of the one true god. One can understand how such beliefs can be sustaining on a long cold night in Baghdad when you are far from home and waiting for God's messiah to defeat your enemies and lead you back to the promised land. As Robert Wright notes about the later chapters in the Book of Isaiah, which were written in exile in Babylon:

And so it is in Second Isaiah: God is promising that the various peoples who have tormented and enslaved Israel over the centuries will eventually get their just deserts; they'll be forced to acknowledge Israel's superiority on both a political and a theological plane. (p.173)

The problem with polytheisms is that they are typically god-tolerant religions; polytheistic cultures accept the existence of gods from other cultures and often even incorporate them into their own pantheons. In contrast to polytheisms, therefore, monotheism is intolerant but offers a sense of superiority and chosen-ness to its believers. To give a later example, when Muhammad and his followers eventually captured the holy site of the Kaaba in Mecca, Muhammad is reported to have removed the 360 gods from many polytheistic religions (including Jesus and his mother Mary) that

were present in the Kaaba in pre-Islamic times. Indeed the Koran criticizes Christianity for not being a truly monotheistic religion because of its concept of the "trinity," which was established following the Council of Nicaea (in 325 CE) to deal with the decision at the Council that Jesus was also divine even though many Christians had disputed this until that time. Taking Muhammad and the Koran's point even further, we might ask whether any religious system that includes angels, devils, the mother of god, and so on can truly be labelled "monotheistic."

The period of time that the Israelites spent in exile in Babylon can also allow one to trace influences of the Babylonian religion, Zoroastrianism, on Jewish theology, in particular the "dualistic" split between the god of goodness (Ahura Mazda in Zoroastrianism, see above) and the evilness of Satan (or Angra Mainyu as he was known in Zorostrianism). These lesser deities seem to have been a way of incorporating the lesser deities of polytheism into so-called monotheism. Nevertheless, despite Muhammad's criticisms of Christianity and our criticisms of them all, we can acknowledge how the biblical inferiority of the Israelites in this world over hundreds of years was compensated for by their belief in a supernatural world in which they and their god dominated all others, especially their enemies. It is hard to escape the psychological function of a belief in their own supernatural superiority over their enemies during the Israelites' long periods of subjugation.

Theism and Deism

We have to be careful, therefore, not to fall into a trap that the monotheistic religions set for us, which is somehow to make us believe that monotheism is superior to "earlier" pagan polytheisms, and that it was merely a matter of time for the one true god to emerge from among all of the false idols. The emergence of monolatry (that is, the worship of one god even though other gods are believed to exist) and subsequently monotheism among the Israelites and its heritage for Christian and Muslim religions can lead to a false psychological perspective of progress and advancement. This is perhaps analogous to the way in which democracy as a sociopolitical system is considered to be superior to absolute monarchy or dictatorships. In order to countermand this false impression, we will briefly consider two other leading world religions, that is, Hinduism and Buddhism, which in their complexity do not permit any easy categorization as polytheistic, monotheistic, or deistic.

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

Hinduism is the world's third-largest religion after Christianity and Islam and has an estimated one billion followers worldwide, though the majority of practitioners are in India. The earliest texts, the Vedas, were recorded about 1500 BCE and have been attributed to a group of invaders into north-west India, the so-called Aryan people. However, Victorian ideas of a super-race, and their unfortunate repercussions in Nazi Germany, have been complicated by more recent archeological evidence for the existence of cities that developed in the Indus Valley region (in present-day Pakistan) around 2500 BCE and possibly even earlier. The continuity with this early civilization has led many Hindus to claim that Hinduism is the world's oldest surviving religion. The pantheon of gods worshipped in Hinduism includes the male gods Vishnu and Shiva and the female deity Devi, but other gods that are familiar in the West include the elephant-god Ganesha, the murderous Kali (considered to be a manifestation of Devi), the monkey-god Hanuman, Brahman who is the supreme spirit, and Krishna who is an avatar or earthly incarnation of Vishnu. In non-dualist versions of monotheistic Hinduism such as the followers of the guru Shankara (788–820 CE), the self and the absolute spiritual reality of Brahman are seen as one; in dualist versions such as that to which the followers of the philosopher Madhva adhere, the self (atman) is considered distinct from the spiritual god Brahman.

Hindus consider that Buddha was one of the avatars of Vishnu. The founder of Buddhism, Siddhartha Gotama, was born in north-east India in about the fifth century BCE. Like the Hinduism out of which it developed, Buddhism defies easy categorization in terms of the categories of animism, polytheism, and monotheism that we have discussed so far. The term "Buddha" that is applied to Siddhartha Gotama simply means "enlightened one" even though it is often used as if it were a proper name. The process of enlightenment within Buddhism is an attempt to escape from the ego and the desires of the self, and thereby escape the birth-death-rebirth cycle or karma that was already an important belief within Hinduism. Different traditions have emerged in Buddhism, the two main divisions being Theravada and Mahayana Buddhism, the former being prevalent in countries such as Sri Lanka, Thailand and Myanmar, whereas the latter is prevalent in China, Japan and Tibet. Only in Tibet, however, did the feudal theocracy that seems to be so beloved of Western romantics develop from the twelfth century onwards, to be replaced by the Chinese liberation in the 1950s. (This is not the normal Western view of the Dalai Lama and Tibet, but the question for Westerners has to be, how many would like to live in a feudal theocracy in which the Archbishop of Canterbury were president for life in

the United Kingdom, or Pastor Pat Robertson were president for life in the United States? The proposal usually leaves Westerners perplexed.)

The well-known Zen version of Buddhism began in China in the sixth century CE and subsequently became the dominant form in Japan from the twelfth century CE onwards. Zen Buddhism emphasizes the importance of meditation, for example on paradoxical statements or koans such as the famous "the sound of one hand clapping." Meditation on these paradoxical statements is meant to lead to a state of intellectual exhaustion in which the ego is eventually abandoned on the route to enlightenment. There is clearly something of a fatal attraction for those steeped in the logical-rational traditions of the West for such challenges to rationality within approaches such as Zen and other forms of Buddhism. An interesting phenomenon that highlights some of the tolerance and attractiveness of Buddhism is its increasing appeal for Hindu low-caste individuals known as "dalits" or "untouchables," whose plight within Hinduism has been very problematic. Because Buddhism rejects the caste system, there have been many millions of dalit converts to Buddhism in the past century. In fact, the majority of Christians in India are also converts from the Hindu untouchable caste, with very few converts from higher castes such as Brahmins.

The alert reader at this point may say, "Hang on a minute. You have not mentioned anything about a god or gods in your discussion of Buddhism." Well, that is why we have saved Buddhism till last in our overview of world religions. The fact that there is a cycle of reincarnation in which the individual can return as any living human or other animal indicates that there is a sphere of what are called "gods" (devas), though these are more like "angels" in the monotheistic religions. These gods or spirits are still subject to karma and will be reborn again. The ultimate aim in Buddhism is that of "nirvana," which is a state of pure mental energy beyond nothingness in which there are no longer any gods. However, it is a mistake to label Buddhism "atheistic," as some commentators have done, because its ultimate state is beyond nothingness, and it may be preferable to extend the term "deism" to include this energy state. As a term "deism" originally referred to the beliefs of a British group who, under the influence of advances in the scientific descriptions of the universe, believed that God had created the universe but then stepped back and allowed it to function according to scientific laws without any further intervention. There are also a number of modern physicists such as Paul Davies whose arguments for the supernatural come close to the Buddhist notions of energy, and for whom, therefore, deism in this altered definition would also be appropriate as a

label. From the psychological viewpoint, the most interesting thing about Buddhist cosmology is that it derives from meditation-based alterations in consciousness, in which there is an experience of a loss of sense of self and an experience of oneness with the universe: this labelling of a psychological experience as an insight into the structure of the universe is obviously open to question, though we will wait until Chapters 2 and 3 to examine the psychology of religious experience in detail.

The Mammon of Science (or "Thank God for the Enlightenment")

Science is both a process or method and an accumulation of facts and theories. The scientific process itself leads to an examination of religious beliefs and practices in a way that many religious individuals find contrary to prescriptions of *faith*, which, they argue, are givens that cannot and should not be examined by such means. Perhaps, though, if the early scientific investigations had supported the idea that the Earth was flat, that it was at the centre of the universe, and that God had created the Earth and all creatures in six days in 4004 BCE (the date declared by Archbishop Ussher in 1650 to be the age of the universe based on the genealogies within the Old Testament), then religions might have been a lot happier with science. The problem, however, is that the Earth is round, that we are nowhere near the centre of the universe, and that your mother really was an ape. We will examine briefly how Christianity has tried to deny these facts, has persecuted those that dared to put forward such ideas, and has now had to play catch-up with the extraordinary developments in science over the last few hundred years. Some claim that religion and science are different domains and that science has no relevance for the domain of religion, but such claims are disingenuous nonsense because religions are testable with the methods of science as we will show.

The Position of the Earth in the Universe

The mediaeval Christian Church held the view that the Earth was at the centre of a universe that had been created by God in six days, as recounted in the Book of Genesis. This view of the universe followed the proposals by Aristotle in the fourth century BCE that the universe is centred around the

Earth (that it is "geocentric"), that it has existed unchanged throughout time, and that there is a set of nested concentric celestial spheres that rotate around the Earth and that contain the sun, the planets, and the stars. Aristotle's ideas were further developed by the Alexandrian Claudius Ptolemaeus (known simply as "Ptolemy" in the West, though he is not thought to be related to the Egyptian Greek Ptolemy dynasty that ended with Cleopatra). Ptolemy's great work, *The Almagest*, elaborated on Aristotle's geocentric universe with the proposals that the Earth is stationary, and, more usefully, he provided detailed mathematical tables that predicted positions of planets, stars, and times of eclipses.

The most significant initial challenge to the Biblical and Ptolemaic geocentric cosmologies came from Nicolaus Copernicus in the sixteenth century, a challenge that was subsequently developed by Galileo, Kepler, and Newton in the seventeenth century. Although, as we will discuss, Galileo is celebrated because of the Roman Inquisition that set out to discredit his work, Copernicus (1473-1543) has to be one of the most extraordinary individuals in the history of science. To begin with, Copernicus was a Catholic cleric for whom astronomy was a part-time hobby rather than a professional activity. Nevertheless, his accumulation of observations of the moon, the sun, and the planets led him to conclude by around 1514 that the geocentric cosmology of Ptolemy was in error, and that it needed to be replaced by a heliocentric cosmology in which the apparent motion of the sun and the stars is a consequence of the daily rotation of the Earth on its axis. Although Copernicus wrote a short unpublished pamphlet sometime around 1514, he continually delayed publication of his great book On The Revolutions of the Celestial Spheres until near his death in 1543 because he knew that there were errors in his mathematical calculations. In fact, the apocryphal story is that he awoke from a coma to be given the first printed copy of his book and then died the same day! (See, for example, the Irish novelist John Banville's (1999) Doctor Copernicus.)

The Catholic Church had been aware of Copernicus's heliocentric proposals even during his lifetime, and Copernicus had been one of the experts involved in the revision of the Julian calendar by Pope Gregory XIII on the strength of his reputation. Hence, why it took until 1616 before the Church officially declared Copernicus to be wrong is an interesting question. In his majestic *A History of Christianity*, Diarmaid MacCulloch (2009) suggests that, by the beginning of the seventeenth century, the long onslaught of Protestantism on Roman Catholicism had left the Catholic Church in a precarious and insecure state. In this precarious position, the outright

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

challenge presented by Galileo in his support of Copernicanism was greeted not with tolerance but instead with the infamous Inquisition. Galileo Galilei (1564–1642) discovered the moons of Jupiter and the orbit of the planet Venus around the sun, all of which contradicted the geocentric views of the Catholic Church: "[The Lord] laid the foundation of the earth, that it should not be removed for ever" (Psalms 104:5). Galileo had been denounced to the Roman Inquisition in 1615 and instructed to abandon his heliocentric heresy. However, the subsequent publication in 1632 of his heliocentric proposals in the "Dialogue Concerning the Two Chief World Systems" led to the Catholic Church placing him under house arrest for the rest of his life. Still, at least he was spared the fate of Giordano Bruno, the former Dominican monk and supporter of Copernicanism, who was burned at the stake for his heretical views. The Catholic Inquisition continues to this day, though as far as we know it no longer practices torture and burns people at the stake; and it now has the more homely title of the "Congregation for the Doctrine of Faith," which was headed by Cardinal Joseph Ratzinger, "The Enforcer," until his promotion in 2005 when he became Pope Benedict XVI.

The Position of Man in the Universe

The climax of the challenges to the Catholic Church from science came with Charles Darwin's publication of On the Origin of Species in 1859. Darwin's momentous work must, however, be considered in the context of an accumulation of questions about the biblical timescales and creation story, such as the claim in 1650 by Archbishop Ussher that the Earth had been created at midday on Monday October 23, 4004 BCE. Prior to Darwin, the evidence from geology and paleontology was already leading to widespread questioning of the biblical account. James Hutton (1726-1797), known as the Father of Geology, had observed a range of "unconformities" in East Lothian near Edinburgh including at Siccar Point, which necessitated geological cycles of seabed deposition, uplift, and erosion in order to explain some of the geological structures that he observed. In 1795, in his famously unreadable A Theory of the Earth with Proofs and Illustrations, Hutton noted that "we find no vestige of a beginning and no prospect of an end." Charles Lyell (1797–1875) was the great Victorian geologist who became a close friend of Darwin, and whose The Principles of Geology was taken by the young Darwin on the voyage of The Beagle. Darwin wrote about Lyell's book, "it altered the whole tone of one's mind . . . when seeing a thing never seen by Lyell, one yet saw it partially through his eyes." During the nineteenth

century the estimated age of the Earth increased into the millions of years, Lord Kelvin estimating it to be in the order of 20 million years old. Darwin himself had estimated that the area near his house at Down in Kent had taken over 300 million years to have formed. More recent estimations from radio isotope dating put the Earth's age at over 4.5 *billion* years, which, to put it mildly, is just a little beyond the biblical estimate.

The impact of Darwin's work on the theory of evolution, as it eventually came to be called, must therefore be understood in the context of the accumulation of geological and paleontological evidence that was a direct challenge to the biblical account. The geological evidence had begun to accumulate to show that the Earth was at least millions of years old rather than the 6000 or so proposed by biblical scholars; paleontological evidence demonstrated that there were creatures such as the famous dinosaurs (the name first given to them in 1841 by the paleontologist Richard Owen, which means "terrible lizard") that were long extinct and that therefore disproved biblical statements about the permanence of all species. Darwin's work was therefore the climax of the Victorian attack on the Bible because it demonstrated that, over sufficiently long periods of time, species evolved or died out through processes such as natural selection; that all species did not exist from the beginning of creation:

And God created great whales, and every living creature that moveth . . . and the evening and the morning were the fifth day. (Genesis 1:21–23)

Darwin did not discuss the origin of mankind in 1859 in *On the Origin of Species*, but the implications for the evolution of humans were soon apparent. It was not, however, until *The Descent of Man*, first published in 1871, that Darwin clearly stated that humans had developed from earlier primates.

In the past 150 years the reactions of different religious groups to Darwin's proposals have been extreme. It is well known that all biblical religions vehemently rejected evolution to begin with. Subsequently, during his tenure of the papacy from 1878 to 1903, Pope Leo XIII proposed a compromise with Darwinian evolution with the suggestion that the human *body* might have evolved from earlier animals but the human *soul* was created by God. The creationist movement in the USA, however, has been far less compromising than the Roman Catholic Church, which had perhaps learned something from its medieval mistakes with the likes of Galileo. The infamous Scopes Trial in Dayton, Tennessee, in 1925 set the scene for the American creationists' attacks on the teaching of evolution in schools, when the teacher, John T.

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

Scopes, was found "guilty" of teaching evolutionary theory, a trial that was brilliantly captured in the Stanley Kramer film *Inherit the Wind* in 1960 with Spencer Tracy and Fredric Marsh playing the combative lawyers. In 1961 the Americans Henry Morris and John Whitcomb published *The Genesis Flood* in which, on the basis of so-called scientific evidence, they claimed that the world really was created in six days and therefore that humans had lived concurrently with dinosaurs. Following from the Morris and Whitcomb book there are now intelligent design and creation institutes and museums springing up all over the USA. Take a look, for example, at the website for the Creation Museum in Petersburg, Kentucky (at www.creationmuseum.org), and you can see displays of dinosaurs roaming around the Garden of Eden next to Adam and Eve. You might have thought that, instead of just highlighting whales, Genesis would have mentioned dinosaurs had they been known to be wandering around the Jurassic Park version of the Garden of Eden.

The puzzle for psychology is how people maintain views of the world that are contrary to the evidence. Why, for example, is the USA both a powerhouse of science and scientific discovery, while at the same time it demonstrates a rapid growth in fundamentalist religious sects that deny or distort the very evidence that science presents? In subsequent chapters, we will examine the range of psychological mechanisms by which belief systems are maintained, and how reasoning processes can be biased in support of false beliefs. Psychology demonstrates that distortions in memory, belief, reasoning, and perception are commonplace. Such distortions can be mildly amusing and entertaining when it comes to visual illusions such as the Müller-Lyer. However, recent debates and arguments over so-called repressed and false memories, which have, for example, led to bitter court cases in alleged child abuse cases, show that even in the secular world our psychological faculties place restrictions and limitations on us. Some of the consequences of these will be examined in subsequent chapters.

The Anthropic Principle

In order to illustrate that all is not fixed in science but that everything is open to debate, we will briefly discuss the so-called "Anthropic Principle" (for a much fuller discussion see Richard Dawkins' (2006) excellent discussion in *The God Delusion*). The idea was first proposed by Brandon Carter (1974), then followed up with a book-length account by John Barrow and Frank Tipler (1988) in *The Anthropic Cosmological Principle*. The original argument refers to the fact that our universe exists because of a number

of very fine-tuned physical constants. If even one of these constants were to deviate by a small fraction, life and the universe as we know it would not be possible. These physical constants include the gravitational constant, the mass of the proton, and the fine structure constant, for which the smallest of variations in value could have meant that the universe consisted only of hydrogen, or only of helium, and that no heavier elements such as carbon would ever have been formed, so carbon-based life-forms such as ourselves would have been impossible. One possible conclusion therefore is that there must have been a deistic "fine tuner" who set these physical constants at exactly the right values in order for life to have developed in this universe, though there could be other universes where the fine tuner did actually set other values for the physical constants just for the fun of it. The Anthropic Principle and similar arguments are of course based on fallacious reasoning; namely, the false conclusion that because we are here, therefore we are *necessarily* here, that is, we are predestined to be here. Unfortunately, such arguments still try to present humankind as the centre of the universe, in the way that the Book of Genesis places us at the centre of a God-created universe. The history of our universe and the history of our planet do not place us at the centre of anything, but this psychological fact seems to be extremely difficult for our species to accept. We will examine the sources of our species' narcissistic problem in the next chapter.

A related issue to the Anthropic Principle is the so-called "god-of-thegaps" in which theists argue that the (shrinking) number of issues that science has not yet explained require the existence of a god. For example, science has not (yet) been able to demonstrate the creation of a primitive life-form in the laboratory from non-living material (though US geneticist Craig Venter's recent demonstration lays claim to having created such a laboratory synthetic life-form, the "Mycoplasma Laboratorium"). It is therefore concluded that a god is necessary to account for this step because of the "gap" in scientific knowledge. The issue of creating life in the laboratory (and other similar "gap" issues such as those in the fossil record) is reminiscent of other such "gaps" in the history of science that have since been bridged. For example, the laboratory synthesis of urea from inorganic materials by Friedrich Wöhler in 1828 at that time had nearly as much impact on religious believers as Copernicus's heliocentric universe proposal. From the time of the Ancient Egyptians, the doctrine of *vitalism* had been dominant. Vitalism argued that the functions of living organisms included a "vital force" and therefore were beyond the laws of physics and chemistry. Urea (carbamide) is a natural metabolite found in the urine of animals that

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

had been widely used in agriculture as a fertilizer and in the production of phosphorus. However, Friedrich Wöhler was the first to demonstrate that a natural organic material could be synthesized from inorganic materials (a combination of silver isocyanate and ammonium chloride leads to urea as one of its products). The experiment led Wöhler famously to write to a fellow chemist that it was "the slaying of a beautiful hypothesis by an ugly fact," that is, the slaying of vitalism by urea in a Petri dish. In practice, it took more than just Wöhler's demonstration to slay vitalism as a scientific doctrine, but the synthesis of urea in the laboratory is one of the key advances in science in which the "gap" between the inorganic and the organic was finally bridged. And Wöhler certainly pissed on the doctrine of vitalism, if you will excuse a very bad joke.

Psychology and Religion: First Thoughts

We have so far resisted making too many psychological interpretations about religion except where these have been irresistible. The remainder of this book will examine in depth what it is about human psychology that has led to the invention of religion in all cultures. There are, however, a few pertinent issues that are worth picking up in this chapter that will set the scene for more detailed issues later. The issues that we will consider briefly are what we will term man-as-god, god-as-man, and Pascal's Wager, in order to illustrate the general approach that will be taken to religion and religious belief in the remainder of this book.

Man-as-God

We started the chapter with two examples of the man-as-god phenomenon with the Fourteenth Dalai Lama, Tenzin Gyatso, and Emperor Hirohito of Japan, both of whom serve as a reminder that we cannot simply dismiss the man-as-god phenomenon as a thing of the past. Nevertheless, it is worth reminding ourselves of previous divine humans because it has to be one of the best jobs around if you can get it. It may, however, be relatively easy for some people to persuade themselves that they are gods (both in the metaphorical sense, if you are a famous celebrity, and in the literal sense, if you are suffering from a delusional psychological disorder), but the catch is that you also have to persuade a large group of other people of your god-like status as well. Of course, if you have been lucky enough to have

your ancestors establish these claims on your behalf, as with the Egyptian pharaohs and the medieval kings of Europe, then you are halfway there. Take, for example, King Jayavarman II who became king of the Khmer Empire with its capital at Angkor in Cambodia (see Higham, 2001). On his accession to the throne in 802 CE, he declared himself "king of the world" and "god-king." One of his many privileges as god-king was that any beautiful woman could be summoned to the royal court "to serve the king at his whim." Given that Angkor has been estimated from satellite mapping to have been the largest pre-industrial city in the world with a population of upwards of a million people, that was some choice of women that the god-king had. Again, very nice work if you can get it.

We will consider in detail in Chapter 3 how the impact of science in the West has led most Westerners to have at least some scepticism about anyone who claims to be a god. Indeed, most people in the West would now expect modern-day gods to be referred to psychiatry where they would be likely to be diagnosed with a delusional disorder and treated with major tranquilizers. Nevertheless, the majority of Christians in the West, despite the advances of modern-day science, hold the belief that Jesus was the "Son of God," born of a union between the divine God and an earthly virgin mother (as we noted earlier, a claim that is identical in all details to the Egyptian pharaohs' accounts of their own divine births). The advances of science therefore, as in the case of evolution and the rise of creationism in the USA, are relatively superficial in their impact on the religious beliefs of the majority of people: hence the tolerance of more recent claims of people in the East such as Emperor Hirohito and the Fourteenth Dalai Lama that they are reincarnated gods. As Claude Levi-Strauss emphasized, the primitive or savage mind is identical to the "modern" mind in terms of the range of belief systems, the processes of reasoning, and the capacity to distort or reject evidence that is contrary to these belief systems. In fact Levi-Strauss despaired of the "modern" mind with its capacity for denial and distortion, which led him to declare, "The world began without the human race and will certainly end without it." His conclusion certainly does not equate man with god but in fact the opposite.

God-as-Man

The Judaeo-Christian God is normally pictured as a wise old man with white hair and a beard in a long white tunic. In fact, he could even remind you of your local priest. And that is exactly the point. If there is a universal

Printer Name: Yet to Come

P1: OTA/XYZ

JWST081-01

P2: ABC

JWST081-Power

July 11, 2011

13.57

deity that is omniscient and omnipresent, that occupies the vast expanse of the universe(s), and that knows the past, present, and future position of every atom in the universe(s), it would be physically impossible for such a being to be an old man sitting on a cloud just above Planet Earth. This anthropomorphic view of the gods of course has a long and famous history: the animal, animal–human, and human gods evident from Paleolithic cave paintings onwards (see, for example, David Lewis-Williams' (2010) book, *Conceiving God*, in which he analyses the cave paintings from France and Spain, approximately 50 000 to 12 000 BCE) demonstrate how our visualizations of the gods are remarkably limited to what we see around us, that is, animals and other humans. The Judaeo-Christian biblical literalist will of course quote the Bible as the only necessary evidence:

And God said, Let us make man in our image, after our likeness... So God created man in his own image, in the image of God created he him; male and female created he them. (Genesis 1:26–27)

The simple answer to the literalist is that the Bible was written by men with their own anthropomorphic view of what God would look like, to which the literalist would reply that the Bible is a scripture that was *revealed* to the writers and the prophets, therefore every word must be true. Although at this point it would be possible to conclude that the debate has reached an impasse, the problem for the literalist is that the Bible repeatedly contradicts itself. It is therefore absolutely impossible for the Bible to be literally true (see, for example, Jason Long's (2005) *Biblical Nonsense*). Even the story of the creation of man is contradicted within Genesis; thus, according to Genesis, Chapter 1 (cited above), males and females were both created at the same time on the sixth day of creation. However, by Chapter 2 of Genesis there is already the well-known alternative account:

And the Lord God took the man, and put him into the Garden of Eden to dress it and to keep it . . . And the Lord God said, It is not good that the man should be alone; I will make him an help meet for him . . . And the Lord God caused a deep sleep to fall upon Adam, and he slept; and he took one of his ribs . . . and made he a woman, and brought her unto the man. (Genesis 2:15–22)

The best conclusion therefore is that *man* created God in his image and likeness, not the other way round.

We must also note that the other biblical religion, Islam, has a very different approach to the use of images to represent God or Muhammad, with such images being banned in mosques and many earlier portrayals even of Muhammad being defaced in more recent times because of Islamic iconophobia. A more positive view of the Islamic approach is that it suggests a more complex and less anthropomorphic view when it argues that its god cannot and should not be visualized. Negative consequences were threats to the life of the Danish cartoonist Kurt Westergaard in 2005 for drawing a cartoon of Muhammad, and, among many other appalling consequences, the banning of the Danish children's toy, Lego, in Saudi Arabia. Yes, that needs to be said twice: Lego was banned in Saudi Arabia because of a cartoon.

Pascal's Wager

Let us end this chapter with a bet. Not just any bet, but a bet that was placed by the French mathematician and philosopher Blaise Pascal (1623–1662), who also has the honour of having the computer programming language Pascal named after him. Pascal's Wager is that even if there is only a small probability of the existence of God, if he exists and we believe, then we would gain happiness for eternity (or infinity in mathematical terms). However, if we bet against his existence but he does exist, then we would have gained unhappiness (hell) for eternity. If however, there is no God, then the argument is that it does not matter. Table 1.1 presents a simplified summary of the Wager, which shows that if you were to decide your beliefs by gambling alone, then your best bet is that you should put your money on God's existence.

There has of course been much commentary and criticism of the Wager. As a number of commentators such as Richard Dawkins (2006) have pointed out, what happens if you believe in the *wrong* god? That it is Baal who turns out to be the true god rather than Yahweh? Perhaps out of jealousy Baal would be more punitive towards believers in the wrong gods than he would be towards an apologetic atheist who turned up and said "Wow! Forgive me—I got that one wrong!" An even worse outcome might be if you believed that God was a *He*, but he turned out to be a *She* who was absolutely fed up with thousands of years of misogynistic male-dominated religions. Now that would be some boost for feminism. Another problem, as others have pointed out, is that a *feigned* belief for the sake of betting on eternity might be viewed as worthy of even more eternal damnation by an omniscient god, akin to feigning love for someone when the genuine motive is not love but some other gain.

	GOD EXISTS	GOD DOES NOT EXIST
BELIEF	ETERNAL HEAVEN	NO CONSEQUENCES
NON- BELIEF	ETERNAL HELL	NO CONSEQUENCES

Table 1.1Pascal's Wager: The possible consequences of gettingwrong the existence or nonexistence of God.

As an addendum to Pascal's Wager, we might note that the worst consequence of being an atheist is that you will never know that you are right. Nor will you have the eternal schadenfreude of knowing that all those theists were wrong. A bit like your lottery ticket winning just after you have died. Perhaps we can call this Power's Misfortune Theory (and a very bad case of PMT it is). Atheists will never have the joy of gloating about being right, yet will have to suffer an eternity of humiliation if we are wrong. Coming to terms with this offers a psychological challenge, and choosing the option requires courage. But a belief in eternal existence cannot be based on cowardice, so in the next chapter we will examine closely the claims of proof based on religious experience.