Both religion and warfare loom large in the recorded history of humankind, and they share some important features. They have both had immeasurable impacts on the life experience of vast numbers of humans, and they both illustrate the amazing power of culture to shape people’s mindsets and determine their behaviour, sometimes in ways that are very much to their disadvantage. They are also linked by the fact that warfare is sometimes based on disagreements between different religious groups about the nature of a deity or the authenticity of various prophets.

Both warfare and religion have caused an immense amount of human suffering. Religion, however, unlike warfare, is also a source of great comfort for some people.

**Religion**

An early outcome of the capacity for culture was the emergence of religion as a universal feature of human society. Without exception, all recent hunter–gatherer groups have embraced belief in a supernatural, or spiritual, dimension of the universe. While there was enormous variation in the details of these belief systems, they all involved belief
in spirits or gods, and they all provided a religious explanation of human existence. There is every reason to suppose that this was the case for many tens of thousands of years.

Early farming and early urban societies were characterised by powerful religious beliefs. All early farming civilisations worshipped gods and spirits. Although the details differed from one region to another, the dominant religious theme for several thousand years in south-western Asia and Europe was the notion of a mother goddess or ‘female principle’, who was worshipped as the giver of life. Rituals were aimed at pleasing the goddess in the hope of improving the chances of good harvests, good health and successful reproduction.

In the early cities of Mesopotamia, the religious sense of oneness with nature was abandoned for a sense of separation. Each city state had its own god, who was now male, and conflicts between city states were viewed as being conflicts between the different gods.

The complicated story of the developments in, and interactions between, different religions in the Early Urban Phase of human history is well beyond the scope of this chapter. A few points are, however, worth making from the biohistorical perspective.

Most of the religions of the Near East were polytheistic, and this was also true in ancient Greece and Rome. However, Zoroastrianism, which was founded by the Persian prophet Zoroaster in the late 7th or early 6th century BC, was based on the idea of a continuous struggle between a single god of creation, goodness and light, and his archenemy, the spirit of evil and darkness. Unlike some other early urban religions, Zoroastrianism included a highly developed ethical code. Judaism was also based on belief in only one god.

The teachings of Buddha around 600 BC were initially relatively simple, as were those of Jesus of Nazareth. In neither case, however, was this simplicity to last. In the case of Christianity, the process of elaboration, intellectualisation and institutionalisation soon led to complicated sets of theories and rituals, with notable contributions from older religions and philosophies. A professional priesthood came into being and, ultimately, the Christian Church split into a few large and often mutually intolerant sects, and numerous smaller ones.
Another great religion of early civilisation, Hinduism, became extremely complex and involved the worship of a few major deities and countless minor ones, although the various sects within Hinduism were relatively tolerant of each other and of other religions. Similar elaboration occurred in the religions of the New World before the European conquest. In the case of the Toltecs, who dominated the valley of Mexico before it was overrun by the Aztecs, a relatively basic nature-worship was transformed into an elaborate polytheism.

Despite all the diversification and other changes that took place in most religions, the great majority of humans were born, grew up and lived their lives in cultural systems that clearly defined the nature of a supernatural world, and which spelled out their religious obligations. Most of these people never doubted the validity of their particular belief system and they assumed, therefore, that all other religions were wrong. There were exceptions, of course, as in the case of those individuals who became suddenly converted from one religion to another after some kind of revelation or an encounter with a charismatic teacher. And there have always, no doubt, been a few sceptics.

A strong sense of religious conviction and differences in religious beliefs have, throughout the history of civilisation, been the cause of a vast amount of bloodshed and untold suffering among many millions of humankind. In the case, for example, of Islam and Christianity, mutual intolerance led to a great deal of bloodshed, as in the case of the Crusades. Indeed, Mohammed achieved his initial success in establishing Islam as the dominant religion over the whole of Arabia through a series of military engagements with local populations of different religious persuasions. But religious intolerance was not confined to the Western world. In China, for instance, religious persecutions around 845 AD are said to have resulted in the destruction of 44,600 Buddhist religious establishments and the enslavement of 150,000 Buddhist nuns and monks.
The assumption in military conflict that one’s own god is on one’s side has persisted for several thousand years. A Spanish eyewitness to the conquest of Middle America wrote in his diary: ‘When the Christians were exhausted from war, God saw fit to send the Indians smallpox, and there was a great pestilence in the city.’

Occasionally, of course, there have been individuals who have been able to perceive the insanity of religious bigotry. Akbar, a Mogul emperor of India from 1556 to 1605, was such a person. He became acutely aware of the absurdity of the multifaceted and fragmented religious scene in India, and of the needless distress and wasteful destruction caused by religious intolerance. He refused to accept the idea that because he, the conqueror and ruler, happened to have been born a Mohammadan, therefore Mohammadism was true for all humankind. It was his aim that all people, whatever their race or religion, should participate equally in India’s public life.

Today, the vast majority of the world’s population adheres to one religion or another. One estimate suggests that about 33 per cent of people are Christians; 19.6 per cent, Muslims; 13.4 per cent, Hindus; and 5.5 per cent, Buddhists. There are also countless different sects within the major religions, each with a particular creed.

Judaism, Sikhism, Zoroastrianism and Taoism are among numerous other smaller religious groupings, each of which is adhered to by less than 1 per cent of the total human population. Only about 15 per cent of people are described as non-religious.

As in the past, some religious groups are so intolerant of those that hold somewhat different beliefs about the supernatural that they set about slaughtering them. It would be difficult to find a single edition of a major daily newspaper today that does not report at least one tragic consequence of this horrendous and senseless behaviour.

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Warfare

Killing members of one’s own species is not common among mammals. It occurs occasionally among chimpanzees and some other species, including wolves and the big cats. Large-scale and deliberate killing of one’s own kind is, however, a uniquely human characteristic. Perhaps the nearest thing among other animals is the aggressive behaviour that is sometimes seen between colonies of certain species of ants.

Judging from evidence of recent hunter–gatherers, mortal conflict sometimes occurred between different hunter–gatherer bands — although it was not a constant feature of primeval society. Many groups lived at peace with their neighbours for long periods.

Large-scale and highly organised homicide has been one of the hallmarks of civilisation. Some authors have suggested that it began with the domestic transition, when people came to possess commodities, like animals and stored grain, which were coveted by others. While there may well be something in this idea, organised violence between groups is certainly not a necessary outcome of agriculture. There have been plenty of farming communities that have lived at peace with their neighbours for long periods of time, and archaeological evidence suggests that the early farmers of the valleys of the Tigris and Euphrates rivers, as well as those of central Europe, were not involved in warfare.

On the other hand, it is also clear that, in some farming societies, violent hostilities were an important aspect of life from very early times. Towards the end of the Neolithic Phase in Europe, the relative peace was shattered by the aggressive ‘battle-axe’ people, who were intent on warfare and political domination; and there is evidence that, around 5,000 years ago, farming people in the south of England built fortified settlements. In more recent times, several groups of slash-and-burn agriculturalists in South America, such as the Yanomami, have been almost constantly at war with their neighbours.

It has also been suggested that the fact that villagers in some regions were usually at war with their neighbours, while in others they were not, can be explained by differences in local ecological conditions. Competition for scarce resources is seen to be the underlying cause of conflict.
My view is that the chief determinants lay in differences in cultural, rather than biophysical, systems, although both factors probably played a role.

It was soon after the establishment of the early cities in Mesopotamia that organised violence between large groups of people came to be accepted as normal. According to one view, these cities came into existence in response to increasingly frequent attacks on villages by nomadic peoples from outside the valley, and the people collected together under temporary military leaders for self-defence. Another school of thought argues that the converse is true, and warfare was the result of the existence of cities, and that the material wealth accumulated within them encouraged attacks from plundering bands of barbarians.

Whatever the explanation, by around 5,000 years ago, highly organised fighting among the city states, and between city states and barbarian raiders, was commonplace. People were immersed in cultural systems that glorified the military exploits of their forefathers and that characterised other human populations as enemies. The heroes of society were the successful commanders and intrepid warriors. For centuries, history books have extolled the prowess of men who commanded armies or navies that succeeded in annihilating large numbers of perceived enemies. Plutarch, for example, a writer who is otherwise generally known for his humanitarianism, wrote in the following glowing terms of Julius Caesar:

> Caesar surpassed all other commanders in the fact that he fought more battles than any of them and killed greater numbers of the enemy. For, though his campaigns in Gaul did not last for as much as ten complete years, in this time he took by storm more than 800 cities, subdued 300 nations and fought pitched battles at various times with three million men of whom he destroyed one million in the actual fighting, and took another million prisoners.

Nevertheless, from the beginning, warfare usually had to be ‘justified’; wars were waged in the name of a god or, at least, of an empire, which was depicted as bringing peace or other benefits to the conquered peoples. The following words from the Book of Joshua provide a good example of the former:

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And Joshua at that time turned back and took Hazor, and smote the King thereof with the sword: for Hazor beforetime was the head of all those kingdoms. And they smote all the souls that were therein with the edge of the sword, utterly destroying them: there was not any left to breathe: and he burnt Hazor with fire. And all the cities of those kings, and all the kings of them, did Joshua take and smote them with the edge of the sword, and he utterly destroyed them, as Moses the servant of the Lord commanded.  

The complete lack of compassion for the people who made up the enemy is well illustrated by descriptions from the tombs of some of the Pharaohs of the New Kingdom of Egypt. The army of Merneptah, son of Rameses II, won a great battle against the Libyans. The booty included not only 9,376 prisoners, but also the genitalia of all the dead enemy soldiers (or their hands, if they had been circumcised). These items were loaded onto donkeys and brought home by the victorious soldiers as evidence of their success. Rameses III also waged war against the Libyans and, in this case, the booty contained 12,535 of these human parts. Clearly, in the prevailing cultural setting, people found this behaviour to be entirely acceptable and praiseworthy.

The professional soldier came to be accepted as a natural and necessary component of most urban societies. For millennia the sword held pride of place among human artefacts as the symbol of masculine virtue.

Warfare was not, however, an inevitable concomitant of urbanisation. The remains of the township of Caral in Peru, which came into existence around 5,000 years ago, show no trace of warfare. No battlements and no weapons have been found. Similarly, excavations at ancient cities of Harappa and Mohenjo-daro in the valley of the Indus River in Pakistan have revealed no indications of military activity until the very end of their history. Another striking example is provided by the cities of the Minoan civilisation on the island of Crete. At a time in the Bronze Age when warfare and empire-building were gaining momentum throughout the Near East, the

3 Joshua 2:10–12 (King James Version).
people of Minos were creating ‘one of the most graceful civilisations man has ever achieved’. The enthusiasms of the people of the Minoan city of Knossos were athletics, elegant clothing and the natural world:

Most remarkable of all is the apparently quite peaceful nature of this development over many centuries, testifying to a highly stable social system, confident, dynamic and flexible. Lack of interest in pictures of battles and of warriors generally is very remarkable. Weapons are rarely found in Cretan tombs before the Late Minoan II level, but they are common in Mycenaean mainland.

This state of affairs presumably had something to do with the fact that Crete is an island. If the Minoan cities had been on the mainland, military activities would surely have been necessary, if only as a means of self-protection.

There have been occasional individuals who have personally renounced violence in all its forms. An especially interesting example was Ashoka, who discarded a strong cultural tradition of violence to embrace the cause of peace. He inherited an empire that extended from Afghanistan to Mysore in India, and which had been built by his grandfather through military force. Around 262 BC, Ashoka was in the process of further extending this empire when he found himself involved in a war with the Kalinga people. His army was victorious, and 100,000 persons were slain. This experience of war, however, brought about a remarkable change in Ashoka. Suddenly he became acutely aware of the intensity of human distress caused by the fighting, and he adopted non-violence as the creed of his life. He changed his personal religion and converted to Buddhism, which, of all the religions of India at that time, was most strongly identified with the principle of Ahisma.

Ashoka issued a long series of religious edicts, which were written on rocks and pillars. At one point he was able to say, ‘instead of the reverberation of the war-drum, is now to be heard the reverberation of religious proclamations’. According to one of the edicts, he was

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6 Ahisma is the law of reverence for, and non-violence toward, every form of life.
anxious to ensure that ‘his sons and grandsons may not think it their duty to make any new conquests’. Later in his reign, he extended the principle of non-violence to animals, and a decree was issued prohibiting the slaughter of numerous specified birds and beasts. He also established botanical gardens especially for the cultivation of plants, herbs, roots and fruits for medicinal purposes, and he arranged for the establishment and maintenance of hospitals both for humans and for animals. In one of the edicts, he wrote:

On the roads, too, banyan trees have been planted by me to give shade to man and beast; mango-gardens have been planted and wells dug at every half-kos; rest houses, too, have been erected; and numerous watering-places were made here and there for the comfort of man and beast.7

Non-violence did not become important in the religions of the Near East before the teachings of Jesus Christ, but after that time it was probably believed in and practised by Christians for a few hundred years. By the 4th century AD, however, cultural developments had overridden the fundamental tenets of the teaching of Jesus, and large-scale homicide was once again acceptable, so long as one was fighting on the side of God.

One of the profoundly significant consequences of the human capacity for culture has been the transmission of hatred across generations. This may well have happened sometimes in hunter–gatherer societies, but it became much more important as an influence on human affairs after the development of civilisation, and it is a major determinant of human behaviour in many parts of the world today. A typical sequence of events is as follows: two human groups, who recognise each other as being different in terms, for example, of religious beliefs, language or skin colour, come in contact. As a result of some aggressive act on the part of one of the groups, or perhaps a misunderstanding, the natural mutual suspicion between the two groups escalates to overt hostility, and eventually violence. This, in turn, leads to distress, resentment and anger among the survivors of both groups. This common pattern is serious enough in its own right, but it is of minor significance

compared with the monstrous tragedy that descendants of the two
groups, many generations later, are forced to feel the mutual hatred
and to continue the violence. Such is the power of culture.

**Weaponry**

Early in hominid history, our ancestors applied their toolmaking
prowess to the manufacture of weapons. In primeval times, these were
used mainly in hunting animals for food, although they may have been
used on occasion in combat between human groups. The weapons
were broadly of two classes. First, there were close-range weapons,
like clubs and hand axes, which consisted in essence of an extension
of the human arm or hand. They were used for directly striking the
enemy. Second, there were projectile weapons, such as stones, sticks
and boomerangs, which were thrown at the target, initially by the
human arm, but later by other means, as in the case of the bow and
arrow. Spears were used as both close-range and projectile weapons.

After the beginning of urban civilisation, most weapons were
designed especially for killing people, and they fell into the same two
classes: close-range and projectile weapons. There was a simultaneous
development of armour, made of leather or metal, which was intended
to provide soldiers with some protection against the weapons of the
enemy.

The spear is the most ancient of the weapons used in warfare. In one
form or another it had been used for tens of thousands of years in
hunting animals for food, originally with a shaft of wood and a
spearhead of stone. When techniques of metallurgy were developed,
spearheads, and sometimes spear shafts, were made of copper or bronze.
The soldiers of Sumer, 5,000 years ago, and of the Old Kingdom of
Egypt, 4,700 years ago, were equipped with metal spears. The cavalry
version of the piercing spear, the lance, was developed later.

The other important short-range weapon, invented and developed
especially for cutting or thrusting into flesh, was the sword. This
consisted of a pointed blade, which might be straight or curved,
with a handle, or ‘hilt’, and a cross-guard. One or both edges of the
blade were usually sharp. Soldiers often became emotionally attached
to their swords and even gave them names. Famous examples from history and legend are Charlemagne’s ‘Joyeuse’, and King Arthur’s ‘Excalibur’.

The discovery of the explosive potential of a mixture of saltpetre, sulphur and charcoal, otherwise known as gunpowder, is believed to have been made in China over 1,000 years ago. In the mid-13th century, Roger Bacon in England wrote a formula for gunpowder as follows: seven parts of saltpetre, five parts of young hazel wood (charcoal) and five parts of sulphur. He stated that this mixture would explode, and that it could cause an enemy to be blown up, or at least to flee in terror. It is believed that the Moors used gunpowder in warfare around 1250, by putting a kilogram of the explosive mixture into an iron bucket that had a small touch-hole at the bottom. They placed a pile of stones on top of the gunpowder, which was then ignited. The resulting explosion propelled the stones through the air, ideally towards the target.

The first cannons, which were made of bronze, were introduced at the beginning of the 14th century. They were replaced by iron cannons half a century later. The first military event of importance in Europe in which artillery played a significant part was the capture of Constantinople by the Ottoman Turks in 1453.

Gunpowder was also applied to the development of guns to be held in the hand, but for a long time these were ineffective. This was partly because of the need to keep a match alight in the combat situation, partly because of the difficulty in keeping gunpowder dry, and partly because of the clumsiness of stuffing lead bullets into the gun’s barrel with a ramrod. Effective rifles were not used for military purposes until the Thirty Years War (1618–48). Later technological developments greatly increased the accuracy and range of both cannons and handguns.

Cultural evolution in Europe and Asia over the past 5,000 years has been associated with a progressive increase in the number of people actively participating in, or affected by, wars. In the 1914–18 Great War, about 53 million men were mobilised into the armed forces, and 8 to 10 million were killed. In 1914, 640,000 French soldiers lost their
lives during the four months from August to November. The army of the United Kingdom lost over 400,000 men in the battle of the Somme, 50,000 of them on the first day.

The Second World War differed from previous conflicts in that aerial bombing of important cities resulted in large numbers of civilian casualties. The armed forces of the warring nations numbered about 30 million and the total number of individuals killed, military and civilian, was probably between 35 and 40 million.

To the time of writing, a further world war has so far been averted, although serious military conflicts have taken place in Europe and Asia, resulting in hundreds of thousands of deaths.

Not all deaths in warfare have been due to physical injuries inflicted by enemies. Malnutrition and infectious disease have also taken their toll. The story of the Spanish invasion of Mexico under Hernando Cortez early in the 16th century provides an interesting example. One of the Spanish expeditions that landed at present-day Vera Cruz in April 1520 included an African slave who was infected with smallpox. The disease soon appeared in the native population and, because these people had not had any previous contact with the smallpox virus, it spread extremely rapidly. By September of that year, the disease had reached the towns around the lakes in the Valley of Mexico, including the Aztec capital, Tenochtitlan. About half the population of this city and of the surrounding region died within six months. This happened at a time when the Aztecs had been gaining the upper hand in the conflict with the Spanish forces. Because most of the Spaniards were immune to the disease, however, they were able to exploit the situation to their military advantage, eventually overcoming the indigenous armies.

This was not by any means the only military campaign in which infectious disease played a role. Until very recently, microbes have caused more deaths among warriors than combat itself, as reflected in the following figures:

- **Crimean War** (1853–56) — about 60,000 men on both sides killed or died of wounds, about 130,000 died of disease.
- **American Civil War** (1861–65) — about 220,000 men killed or died of wounds, about 400,000 from infectious disease.
- **South African War** (1899–1902) — of the British forces, 7,534 were killed or died of wounds, 14,382 died of infectious disease.
The influenza epidemic immediately after the First World War killed at least 21 million people, and probably many more, compared with the 8 to 10 million soldiers killed in action.

The increasing power of weaponry has led to a fundamental change in the ‘art of warfare’. By the time of the First World War, some of the combat was no longer on a one-to-one basis. The single touch of the trigger of a machine gun could kill a dozen men, and one artillery shell could destroy many individuals who were out of sight of the gunners. This change in the nature of armed conflict had further progressed by the time of the Second World War, when there was greatly increased air bombardment and new projectile weapons in the form of various kinds of rockets were introduced. Technology now exists that makes it possible for deliberate hostile action by a small number of individuals to cause the death of millions of people thousands of kilometres away.

During the last part of the Second World War, Germany and the United States were competing to be the first to produce nuclear weapons. Then, three months after the capitulation of Germany, on 6 August 1945 at 8.15 am, a nuclear bomb was dropped from an American aircraft onto the city of Hiroshima in Japan. At least 140,000 people, about 40 per cent of the population of the city, were immediately killed or died soon afterwards. The buildings of the city were flattened over an area of 13 square kilometres. Three days later, another bomb was dropped on the Japanese city of Nagasaki, and 26 per cent of its population of about 280,000 was killed outright.

After that time, governments representing opposing political ideologies directed immense financial resources and human effort to the development of nuclear weapons, with the result that bombs now exist with an explosive power a thousand times greater than that which was dropped on Hiroshima. Nuclear weapons range in strength from the equivalent of around 100 tonnes to 20 million tonnes of TNT, depending on the use for which they are designed.

The ecological and human impacts of a nuclear conflict in the future would obviously depend on the scale of the war and on the geographical distribution of the nuclear explosions. Certainly, even if only one tenth of the existing nuclear weapons were used, the numbers of people killed by radiation, fire and blast would be astronomical. While most commentators consider it likely that a major
nuclear war would leave some survivors, especially in the Southern Hemisphere, uncertainties exist about the likely effects of such a war on the planet’s ecosystems resulting from nuclear radiation and climate change caused by widespread fires. It could well happen that the biosphere as we know it today would collapse and no longer be capable of supporting a human population.

It has thus come about that, for the first time in the history of life on Earth, and in the lifetime of many of us alive today, a single species of animal has developed the ability to destroy most, if not all, of its kind within a few days, and to cause extreme devastation in the biosphere as a whole. It owes this achievement to its capacity for culture.

Mention must also be made of the enormous amount of effort and resources that have been devoted in modern Exponential Phase societies to the development of other sophisticated weapons of mass destruction. Thus, apart from the advances in nuclear armaments, great progress has been made in the development and production of chemical and biological weapons. I will not discuss these here because, horrendous though they may be, their impact on humans and other life forms would be small in comparison with that of a nuclear war.

Human society as a whole spends over US$1 million per minute on the development and manufacture of homicidal devices. In six hours, more money is spent on the manufacture of arms than was spent by the world community in bringing about the eradication of smallpox from the face of the Earth.

The facts summarised in the last couple of pages make sheer mockery of the scientific name that humans have given themselves — Homo sapiens. Yes, humans have big brains, they are clever, and they have a capacity for culture. But they can hardly be described as wise.

The story of warfare, of the development of nuclear weapons, and now of the rise of international terrorism, well illustrates the potential of culture to lead us to behave in ways that are nonsensical in the extreme. Of course, most of the individual humans who have, for example, participated in the manufacture of nuclear weaponry, have been behaving in a moderately rational way, in terms of the assumptions of their particular cultural microcosms. But their behaviour can in no way be seen as rational in terms of the well-being of humanity or of the living systems of the biosphere.
In conclusion, there is nothing in human nature that precludes the performance of extremely aggressive and brutal acts directed by groups of people against other groups of people. On the other hand, there is also nothing in human nature that rules out the possibility of different human groups living at peace with each other. With regard to the future, a major determinant of whether or not warfare and terrorism continue to be a feature of civilisation will be the extent to which people allow themselves to be blinded by narrow, pernicious and maladaptive cultural delusions.

**Box 6.1 Increasing destructive power of weaponry**

The growth in the killing potential of bombs during the 20th century can be illustrated by the following analogy: If we imagine the explosive power of the biggest bombs in the First World War to be represented by a pea, then the most powerful weapons used in the Second World War (other than atomic bombs) would equal the size of a large plum. The Hiroshima bomb would be equivalent to a sphere of about 0.5 metres across. The most powerful bombs that are now ready for use would have a diameter of five metres.

Source: Stephen Boyden
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