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The biological foundations and value of religion

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Summary

Morality has evolved and morality is the core of all religions so the basis for religions has evolved. All human societies have a propensity for religion because religion provides a structure for the moral code that is valuable in all of those societies. The religious framework makes life easier for the average person and makes it easier for the likely transgressors of moral codes to understand what should and should not be done.

1 Introduction

The themes for this paper are: firstly, that helping others and not harming others are biologically effective strategies, especially for animals such as humans, that live in long-lasting social groups. That is why parables like “The Good Samaritan” are much emphasised in Christian teaching and there are parallels in the teachings and codes of conduct of other religions. Secondly, that other religious practices, images and symbols are easier to understand if the biological basis of morality and religions is understood. Thirdly, that religions are of great value in societies but need to change as knowledge progresses.

2 Concepts and attitudes

What do the terms moral, ethics, selfish, altruism and religion mean? Morality is not an obscure topic which is difficult to comprehend. “Something is moral if it pertains to right rather than wrong”¹. Every person has ideas about what is right and some actions are considered to be right by a very high proportion of people. People take account of morality in their actions and most discuss moral issues with others. *Ethics is the study of moral issues.*

Is morality an issue related to biology and are there links between the functioning of humans and non-humans in relation to decisions about which actions to carry

¹ Broom 2003.

out because they are moral and which to avoid because they are not? The topic of morality is one which some people would not accept as suitable for discussion, from a biological or other perspective, because it is thought of as sacred or God-given. The influential philosopher, G. E. Moore went so far as to state that: "It is illegitimate to argue from the facts of nature to human values"². Even a biologist might regard morality as in some way outside biology. In the midst of a strong argument about the importance of evolution by natural selection in social life, Richard Dawkins said: "We, alone on earth, can rebel against the tyranny of the selfish replicators."³ Somewhat similar views are stated by Alexander⁴ and Williams⁵.

The idea of the "selfish gene" proposed by Richard Dawkins was embedded in a very illuminating and influential book which promoted the understanding of genetic and behavioural mechanisms. However, the term "selfish gene" is misleading. "Selfish describes an individual acting in a way that increases its fitness at the expense of the fitness of one or more other individuals whilst being aware of the likely affects on itself and on the harmed individual or individuals."³ The word "selfish" is thus limited to individuals and it could not describe a gene. If there is no awareness, it is not selfishness. As Mary Midgley points out⁴, a word which is widely used with one set of connotations cannot be transferred to another set without causing the reader or hearer to misunderstand either the breadth of its implications or the concept itself. One consequence of Dawkins' usage of "selfish gene" is that people will argue that we are not responsible for the effects of our genes, genes are often selfish, and hence there is nothing wrong with being selfish. It would be better to produce another term to refer to genes that promote the fitness of the bearer, i.e. the actions benefit the subject, at the expense of others that are harmed by the action. The terms "harmful subject-benefit"⁵ or "subject-benefit at the expense of others", are more accurate if more cumbersome.

In order to explain the basis for morality we often refer to altruism. An *altruistic* act by an individual is one which involves some cost to that individual in terms of reduced fitness but increases the fitness of one or more other individuals. Robert Trivers said: "There can hardly be any doubt that reciprocal altruism has been an important force in human evolution"⁶. *Reciprocal altruism* occurs when an altruistic act by A directed towards B is followed by some equivalent act by B directed towards A or by an act directed towards A whose occurrence is made more likely by the presence or behaviour of B.

In order to show reciprocal altruism, the individual has to have a certain level of cognitive ability. Humans and other social animals have this. We refer to a certain

² Moore 1903.

³ Broom 2003.

⁴ See Midgley 1994.

⁵ Broom 2003.

⁶ Trivers 1985,p. 393

level of such ability as sentience. “A sentient being is one that has some ability: to evaluate the actions of others in relation to itself and third parties, to remember some of its own actions and their consequences, to assess risk, to have some feelings and to have some degree of awareness.”⁷

A major confusion exists in the usage of the term “morality” to refer especially to aspects of sexual activity. There are some actions which might be criticised by some or many in human society but which are to do with sexual or other customs rather than with true morality. Many sexual taboos serve a mate-guarding function for certain males rather than being in the general interest of the members of a social group. A straightforward example is the view that it is morally wrong for women to derive pleasure from the act of copulation. The practice of clitorrectomy is a consequence of this view. I consider that some actions are always wrong, so they cannot be justified by cost-benefit analysis of consequences. However, I consider that sexual acts are not in themselves wrong. The consequentialist argument is useful here in that moral judgements about sexual activity should concern whether or not there are harms to individuals as a consequence of the acts⁸. Hence, whilst rape would always be immoral because it would always have harmful effects, no sexual act would necessarily be immoral. It is necessary to consider the context of the act, including the individual to which it is addressed, and its consequences in order to determine whether or not there are harms as a result of the act. Indeed, some sexual acts result in the production of much desired offspring, help to cement bonds between partners, or calm individuals and reduce the risk of anti-social behaviour.

It is quite clear that religions have a link to morality because all of the main religions include a moral code in their teaching. However, what exactly is a religion? “A religion is a system of beliefs and rules which individuals revere and respond to in their lives and which are seen as emanating directly or indirectly from some intangible power”.⁹

3 Codes and rules of conduct

Codes and rules of conduct, which include issues of great importance, are widespread in human society¹⁰. Some of these codes are specified as laws, for example those to prevent murder, theft, rape and fraud. Other selfish acts are the subject of sanctions which, although social rather than legal, are important nonetheless. Indeed Ridley refers to a taboo against selfishness¹¹. Codes of conduct have been writ-

⁷ Broom 2006.

⁸ See Broom 2003; Broom 2006.

⁹ Broom 2003.

¹⁰ See Broom 2003; Broom 2007.

¹¹ See Ridley 1996.

ten down in many societies, for example the ten commandments of the Jews and Christians, in the Bible (Exodus, 20, 3-17 and Deuteronomy, 5, 7-21) and the Greek rules of conduct. The Qu'ran makes it clear that it is the morality of the individual's actions which determines reward and punishment (Sura XLIV, 40).

Those who injure another deliberately, those who cause injury by careless contact with another such as a push which leads to a head injury, and those who are negligent with the consequence that an injury is caused to another, are condemned by society, albeit to different degrees¹². For example, a person who leaves a large hole in the ground uncovered in the dark, or who gives a child a dangerous weapon is severely criticised in any major human society. There are also rules relating to the use of important resources. If plentiful quantities of food are occasionally obtained by individuals in a social group, there is likely to be an expectation within the group that these will be shared. Many of these rules seem to exist in other social species.

Humans and other animals which live in social groups cooperate, largely with other group members, in many ways that benefit the cooperating individuals more than would occur if they just competed with one another. Cattle, primates and other social mammals and birds show mutual grooming whilst many birds and mammals co-operate in finding and obtaining food, even sharing it¹³. In addition to the more obvious kinds of cooperation, the commonest kind of altruistic behaviour in social groups, which is often reciprocated, is to avoid injuring other individuals¹⁴. Great care is usually taken by individuals to avoid collisions, that would benefit the avoider as well as the avoided, but also not to step on others, or injure them with bodily weapons, or push others out of trees, or over cliffs, or into places of danger from predators. Cattle have large sharp horns and wolves have large teeth but it is very rare for either to injure members of their social group. The avoidance of harming others is advantageous in order to minimise disruption of group stability. It may also reduce the likelihoods of kin being harmed or of potentially dangerous retaliation occurring.

If any accidental and perhaps avoidable harm to another does occur, this can be followed by changed behaviour on the part of the harmed individual and on the part of the one who has harmed. Harm may be followed by some form of retribution but either accidental or deliberate harm may also be followed by reconciliation, at least in primates¹⁵.

The key points of the argument that morality has evolved¹⁶ are as follows:

¹² See Kropotkin 1992; Ridley 1996; Broom 2003.

¹³ See Ward/Zahavi 1973; Wilkinson 1984; Waal 1996.

¹⁴ See Broom 2003.

¹⁵ See de Waal 1996.

¹⁶ See Broom 2003; Broom 2006.

- 1) There is widespread occurrence of co-operative and altruistic behaviour in social animals.
- 2) Awareness, feelings and cognitive ability are clearly demonstrated in mammals and birds and in other animals to a lesser extent.
- 3) There is great overlap in the gene complement of humans and other animals.
- 4) The likely success of strategies which involve moral action is demonstrated by modeling and the actual success is apparent from behavioural and other observation.
- 5) Reciprocal altruism is important in the evolution of morality but is not all of the biological basis.

4 The moral core of religion

All religions have a moral code that is central to their functioning. It is argued here that the differences among religions are in peripheral aspects, including tribal components. Holy books are a source of information about what is moral but they also include much history. Religions have a guide to behaviour and a system for discouraging cheats or those who harm others. The moral code in each religion is very similar and includes a variety of commandments used by those who adhere to the religion.

Several aspects of religions reflect biological principles related to morality. Examples given here include the use of images, the nature of key commandments and arguments within religions for altruism and the mechanisms to support it.

Images of humans and of other animals have been viewed, in a religious context, as a source of protection and sometimes revered. One aspect of the biological basis of this is that many images are symbols of collaboration, cooperation and altruism¹⁷. Some of the individuals, human or non-human, portrayed in the images are of those who help the people involved. A person who guides or provides other resources, or a sentient animal¹⁸ which is perceived to share its capabilities or body with the people, is often respected for those reasons.

When humans or other animals showed maternal care, defence of others, careful avoidance of causing harm to others, or direct assistance to others, they were respected for doing so. Both humans and non-humans sometimes act in selfish ways but this does not mean that all their actions are selfish. Indeed, societies can

¹⁷ See Broom 2007.

¹⁸ See Broom 2006.

only persist if the net effect of the actions of their members is to promote stability of the social group so it is logical that selfless actions should engender respect. The fact that non-human animals often showed behaviour that was a good example to people may well have been an important reason why some animals were revered, thought to be holy, or worshipped. A consequence of any degree of reverence for a human or non-human was sometimes the production of images of the individual to possess or even idolise.

Some of the images which reflect these biological principles are listed in Table 1 and exemplified by Meskell¹⁹, Wang²⁰ and Atre²¹.

Table 1. Images used in religions which may reflect the biological basis of morality²²

1. A mother, sometimes with her offspring.
2. Individuals whose conduct is explained and well known and who are revered for their conduct and teaching.
3. An animal which is valuable and considered blameless.
4. An animal which is thought or known to be altruistic.
5. An individual, human or non-human, whose image or reputation indicates ability to see or understand what others are doing and to be in a position to punish cheats.
6. An individual reputed to be perfect and hence not selfish, for example, the Buddah, Jesus or other deities.

All of the major religions have key principles or commandments that have been given great emphasis throughout the history of the religion. These concern, firstly, avoidance of harm to others, secondly, positive moral attitudes towards others and thirdly, the potential for a better life if this is done and retribution if it is not. For example²³, in Buddhism there is the principle of “ahimsa” non-injury to others. In Hinduism, the books of Manu lay down duties, many encouraging avoidance of harm or active help. In Confucianism, it is thought that humans have a moral sense,

¹⁹ See Meskell 1995.

²⁰ See Wang 1997.

²¹ See Atre 2002.

²² After Broom 2007.

²³ See Broom 2003.

the sensibility of the *hsin*. There is great emphasis in Christianity and Judaism on the ten commandments, in particular that you should love your neighbour as yourself. A major feature of Islam is that all acts are known to Allah who rewards and punishes according to morality. Many parables and examples from history in religious teaching explain the advantages of altruistic actions for individuals and for society. The structure for increasing the chances that individuals who do good will benefit and those who do harm or cheat will be found out and punished is an important part of the organisation of the religion. This teaching is generally linked in the religions to the concept of a deity, or a holy way of acting, as discussed later.

5 Biological origins for aspects of religion

The biological origins of moral behaviour are a consequence of the great success in social animals of the strategy involving, to various degrees, avoidance of harms, co-operation, reciprocation of altruistic acts and punishment of cheats²⁴. Genes that promote such brain mechanisms and behaviour could spread in the populations of social animals²⁵. All of the major religions have elaborate structures central to the religion, strongly encouraging each of these actions. Hence it is logical to argue that religions, and other sets of beliefs relevant to human conduct that may or may not be called a religion, will arise inevitably as the structure for the moral system which encourages the promotion of co-operation and the detection and discouragement of cheating.

If structures for moral systems are likely to arise in complex societies, they should be one of the aspects common to all religions that are long-lasting. There are also other characteristics shared by religions which relate to the structure for morality, at least in part and which have biological origins. The commitment of people to relationships with other individuals²⁶ facilitates the more personal aspects of religion, both with other individuals in the same group and with the deity. Perhaps as a part of this, or perhaps as a factor encouraging a structure for morality, there may be a biological propensity to have some beliefs like those associated with religions. Edward Wilson said: "The pre-disposition to religious belief is the most complex and powerful force in the human mind and in all probability an ineradicable part of human nature."²⁷

Prayers are widespread in religions and although individuals are encouraged to pray, many prayers are social events. There is a substantial emotional and intellectual impact when a group of people say or sing words regarded as significant. It is quite possible that there has been selection increasing the spread of genes that had

²⁴ See Ridley 1996; de Waal 1996; Broom 2006.

²⁵ See Riolo 2001; Broom 2003; Broom 2006; Axelrod 1997.

²⁶ See Hinde 1999.

²⁷ Wilson 1978, p.169.

the effect of the bearer feeling pleasure when a concerted action such as group-praying occurred. Such concerted actions might be beneficial in various situations, not just during religious activity, but it may be that the encouragement of good conduct in the social groups was the most important benefit.

Another characteristic of religions is to localise activities in a building or at a particular site. This site is often one where group activities such as praying, preaching by those perceived to be wise, and discussion occur. If a person has behaved badly or well this is more likely to be revealed by discussion in such places. Whether or not it is revealed, the probability that the person feels pleasure at good deeds or guilt at bad deeds is increased during a meeting or just by being at the revered site. Such sites engender a feeling of belonging to the group who utilise them. The likelihood of behaving in an immoral way may be reduced by visiting the church, mosque, temple or other site. Since the immoral actions often damage group stability, selection may favour members of those societies who set up such a holy place.

There is, in all the major religions, a concept of an ideal state, sometimes localised in an imagined place. If there is bad behaviour, in general meaning that which causes harm to others and indirectly to oneself, and good behaviour which is rewarded, the potential exists for an individual to do only that which is good. Those people who seem to do only good are revered by the members of societies. The idea of an ideal state is a logical consequence of there being a moral structure in an organism with a high level of cognitive ability.

If individuals behave well, an argument based on the existence of a moral structure is that they will continue in the society for longer than those who do not behave well. Since stable societies with sophisticated moral structures are more likely to continue than those without and it may be dangerous outside the society, an individual who behaves well and stays in the society may live longer than one who does not. Avoidance of anti-social behaviour becomes associated with longer life. Good individuals also tend to have good effects that last longer than their own lives. Their good works may be remembered and reference to them incorporated in the teaching of the society and its religion. Hence the biological propensity for a moral structure leads to the concept of some degree of immortality.

6 God, Allah, the spirit within societies

Any society of living, sentient beings has qualities additional to the sum of those of the members of that society. Those qualities, the spirit within the society, benefit the society members. The spirit is often thought of as an individual who has the capacity to know all things and to be capable of punishing those who cheat or otherwise do wrong and rewarding those who do good. The concept of God as a spirit linking all sentient individuals is reconcilable with the biological background and usable by all. Early ideas of God were localised so that they pertained to a single

society but a wider concept of God concerned with all societies rapidly became widespread. If God is aware of all good and bad deeds and is ultimately ensuring that there is appropriate reward or punishment, a belief in God is a key part of the religion.

A serious problem for religion in current human society is that many people find the concept of God difficult if God created and is responsible for the physical world. Whilst God who links all sentient beings is not difficult for most to accept, does God cause lightning to strike or cause a disease outbreak to start? In my view, it is not necessary to think of God doing these things. A reverence for God is possible and logical without believing that God causes every change in the weather or is responsible for every principle of physics. With this view of God, the key part of religion can be separated from ideas about the origin of the universe, the origin of life and the origin of humans. It is not necessary to think of God having created the physical universe. The creation of the universe of sentient beings is a great enough event. The involvement of God can be considered from the time that there were sentient beings. Hence, the origin of life can also be thought of without taking account of any part being played by a deity.

Many people, who have distanced themselves from religion, have done so because they find difficulty in accepting the writings of holy books on the subject of creation and the origins of the universe and of life. Discussions about intelligent design still leave the question of who did the designing. We do not have to ask this if God is not linked to physical creation. An even larger number of people will have no part in religion because of statements about God controlling everyday physical events. More people would take part in religious activities if a more flexible and tolerant attitude to the concept of God existed within the religious group.

7 Whither religions?

Is it desirable for more people to be involved in religions? There has often been a tribal component to the practice of religions. An aggressive act by one group who adhere to one religion may be directed against another group with a religious difference from the first. However, all major religions condemn harmful acts against others and because of improved communication, there is now a world view that all people, or all sentient beings, are included within our society²⁸. The tribal components of religions are becoming subservient to the central moral components. Immoral actions carried out by someone using the name of a religion to justify their action are still immoral and contrary to the teaching of the religion. The medieval Christian who invoked the name of God when attacking with a sword, the modern Christian who does the same when firing a missile or the modern Muslim who

²⁸ See Broom 2003.

plants a bomb intended to kill people in the name of Allah is not a true Christian or a true Muslim.

With the exception of such tribal actions, the effects of belief and religious practice on individuals are that the welfare of some people is very greatly improved by it, whilst that of many others is somewhat improved. Many people who are not at present involved in religious activity would benefit individually from such involvement. The great value of religion is as a structure supporting and a mechanism promoting moral codes. Societies are stabilised by moral systems and hence by religion. As a consequence, many other individuals would benefit. At present, most societies are still greatly influenced by the good effects of religions in previous generations. However, this carry-over effect may not persist. The structure provided by religion can be of great and continuing benefit in future societies.

In order to be accepted by people today, religions have to change with improvements in knowledge, or they will decline and many of their beneficial effects will be lost. For many people, the best aspects of religions can be accepted as long as the whole package does not have to be accommodated. If the people in the religion say that those joining have to take all or nothing, many will not join. It must be possible for central moral aspects to be accepted by a person without every belief having to be incorporated in their views and every ritual followed. If this is not done, religions will decline. This would be very sad because the religious framework makes life easier for the average person and makes it easier for the likely transgressors of moral codes to understand what should and should not be done.

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