

Broom, D.M. 2007. Images and the biological origins of religion. In: *Image and Imagination: a global prehistory of figurative representation*, eds C. Renfrew and I. Morley, McDonald Institute Monographs, 333-336. Cambridge: Cambridge University Press.

Pre-publication copy

Images and the biological origins of religion

Donald M. Broom

Centre for Animal Welfare and Anthrozoology,
Department of Veterinary Medicine,
University of Cambridge, Madingley Road,
Cambridge, CB3 0ES, UK.

dmb16@cam.ac.uk

Abstract

Complex animal societies are most successful if members minimise harms caused to one another and if collaboration occurs. In order to promote this, a moral structure inevitably develops. Hence morality has evolved in humans and in many other species. The central characteristic of religions is a structure which supports a moral code, essentially the same one in all religions. Many images, especially those with spiritual significance, are of humans or non-humans perceived to have important moral qualities. Preference for these has some biological basis. Whenever an image is found, it is worthwhile to consider whether or not that image might be of an individual whose moral status is exemplary to those who see the image and how many people might have seen it.

1. Introduction

The first theme of this paper is that biologically, helping others and not harming others are effective strategies, especially for animals such as humans who live in long-lasting social groups. This is why “The Good Samaritan” is much emphasised in Christian teaching and there are parallels in the teachings and codes of conduct of other religions. The second theme is that religious images and symbols are easier to understand if the biological basis of morality and religions is understood.

2. Concepts and attitudes

Something is moral if it pertains to right rather than wrong. Every person has ideas about what is right and hence takes account of morality in their actions. Most people discuss moral issues with others. *Ethics is the study of moral issues.* Unless otherwise attributed, definitions and ideas presented in this paper come from Broom (2003).

Some ideas which biologists would take as axiomatic are not necessarily accepted by other people. One example of such a biologically-based statement is that humans are animals. Another is that humans and other animals take all decisions using their brains and that the heart is not directly involved in decision making. These and many other biological facts are relevant to the discussions about the biological basis of morality, religions and images that are presented here.

Morality is a topic 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 (1903) went so far as to state that: “It is illegitimate to argue from the facts of nature to human values”. 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, Dawkins (1976) said: “We, alone on earth, can rebel against the tyranny of the selfish replicators”. Somewhat similar views are stated by Alexander (1979) and Williams (1988). Dawkins’ term “the selfish gene”, proposed in an illuminating and influential book, is misleading. *Selfish describes an individual acting in a way which 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 (Broom 2003). The word selfish is thus limited to individuals and it could not describe a gene. If there is no awareness, it is not selfishness. 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 (Midgley 1994). One consequence of Dawkins' usage of "selfish gene" is that people will argue firstly, that we are not responsible for the effects of our genes and secondly, because genes are often selfish 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" (Broom 2003), or "subject-benefit at the expense of others", are more accurate if more cumbersome.

The desirability of considering the biological basis for morality has been expounded by many authors, for example Kropotkin (1902), Kummer (1978), Midgely (1978), de Waal (1996) and Ridley (1996). 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.* Trivers (1985) said: "There can hardly be any doubt that reciprocal altruism has been an important force in human evolution". *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.*

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. However, 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 acts (Broom 2003, 2006). 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.

Codes and rules of conduct, which include issues of great importance, are widespread in human society. 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 (1996) refers to a taboo against selfishness. Codes of conduct have been written 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 determine 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 degrees. 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.

3. Morality and its evolution

Humans and other animals which live in social groups cooperate in many ways which benefit the cooperating individuals more than would occur if they just competed with one another. 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 individuals. Great care is usually taken by individuals to avoid collisions, which would benefit the avoider as well as the avoided, but also not to step on others, or injure

them with horns or teeth, or push others out of trees, or over cliffs, or into places of danger from predators. 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 primates (de Waal 1996).

The key points of the arguments presented here about morality and its evolution and elaborated by Broom (2003) are as follows.

1. True morality does not include customs, or attitudes to sexual behaviour stemming from mate guarding etc., except indirectly by effect.
2. Some laws indicate what is morally right but others may protect the persons and property of the powerful or perpetuate tribal or other customs. Although more likely to do so in a democracy, laws will not always indicate what is right.
3. There is widespread occurrence of co-operative and altruistic behaviour in social animals.
4. Awareness, feelings and cognitive ability are clearly demonstrated in mammals, birds and other animals to a lesser extent.
5. There is great overlap in the gene complement of humans and other animals.
6. The likely success of strategies which involve moral action is demonstrated by modelling and the actual success is apparent from behavioural and other observation.
7. Reciprocal altruism is important in the evolution of morality but is not all of the biological basis.

4. The moral core of 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 (Broom 2003). All religions have a moral code which is central to their functioning. 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.

5. Images in relation to biologically based preferences

Images of humans and of other animals have been viewed as a source of protection and sometimes revered. What are the characteristics of these images and why have they been made or selected? There will be many answers to these questions and the ideas presented in this paper present the biological basis as a guide to some of the answers.

Many images are symbols of collaboration, cooperation and altruism. 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 an animal which in some way shares its capabilities or body with the people is often respected for those reasons. People have long appreciated the sentience of various domestic and other animals and have often thought of them as an example to follow or a friend who would help, rather than just as a resource object. *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* (Broom 2006). Both humans and sentient non-humans were thought of as having the capability to be good or bad. These attitudes were based on observations of behaviour and of the consequences of behaviour. They may have been exaggerated by anthropomorphism but they were not just anthropomorphic.

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 actions are selfish. Indeed, societies can 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 to some extent, thought to be holy, or worshipped. A consequence of any degree of reverence was sometimes the production of images of the animal to possess or even idolise.

Some of the images which reflect these biological principles are listed here.

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.

Some individuals perceived or reported to be perfect are, as a consequence, not allowed to be represented as an image.

In contrast to the above, the source of retribution or terrible vengeance is sometimes the subject of an image. Such images are less common and less long-lasting in the history of a religion, than images of the good, the altruistic, or the useful, or of those believed to

be aware of transgressions or perfect.

The question of the level of reverence given to images found in human communities may not be answerable with certainty so reference to images in this paper does not imply that these are likely to have been worshipped. Human mothers have often been the subject of images, for example in India (Gordon and Gordon 1940) and China (Wang 1997). Cattle may also be used as images (Atre 2002) and, since both males and females normally have horns, many of these may have been females who were mothers. As Meskell (1995) emphasises, a female figure may be a mother, perhaps exaggerating maternal physical attributes, but may not be a mother and many different individuals with different qualities could have been used as models for image production. Whilst not all female figures were portraying morally desirable qualities, there may well be more of such figures than would be expected by chance.

A question which is worth asking, whenever an image is found, is whether or not that image might be of an individual whose moral status is exemplary to those who see the image. The creator of the image may have fashioned it for this reason but may sometimes have been unaware of why that particular image was fashioned. When morally exemplary images were fashioned, in some cases they would have been seen by very many of the people in the community. In order for this to occur, they would usually have been impressive because of their size or because of their exceptional quality. Some morally exemplary images would have been produced for individual usage but there are many other reasons why individually available images might have been produced. Hence there might not necessarily have been large numbers of morally exemplary images but those that did exist would have been widely seen. Both human and non-human exemplary images could have had useful effect in human societies if a sufficient number of people responded to them by some reduction in behaviour that destabilised the structure of the society, or by an increase in behaviour that promoted societal stability. In many cases, images with such value would have been linked to the religion of that society.

6. General conclusion

Many images, especially those with spiritual significance, are of humans or non-humans perceived to have important moral qualities. Preference for these has some biological basis. Whenever an image is found, it is worthwhile to consider whether or not that image might be of an individual whose moral status is exemplary to those who see the image. If so, the larger and otherwise most impressive morally exemplary images may have been readily seen by many people so evidence concerning the likelihood of this should be sought.

7. References

- Alexander, R.D. 1979. *Darwinism and Human Affairs*. Pullman: University of Washington Press.
- Atre, S. 2002 Harappan Religion: Myth and Polemics. In *Indian Archaeology in Retrospect, Volume II. Protohistory: Archaeology of the Harappan Civilization*, ed. S. Settar and R. Korisettar, 185-204. New Delhi: Manohar.
- Broom, D.M. 2003. *The Evolution of Morality and Religion*. Cambridge: Cambridge University Press.
- Broom, D.M. 2006. The evolution of morality. *Applied Animal Behaviour Science*. (In press).
- Dawkins, R. 1976. *The Selfish Gene*. Oxford: Oxford University Press.
- Gordon, D. H. and M. E. Gordon, 1940 Mohenjo-daro; Some Observations on Indian Prehistory. *Iraq* 7:1-12.
- Kropotkin, R. 1902. *Mutual Aid: a Factor in Evolution*. London: Allen Lane.

- Kummer, H. 1978. Analogs of morality among non-human primates. In *Morality as a Biological Phenomenon*, ed. G.S. Stent, 31-47. University of California Press: Berkeley and Los Angeles.
- Meskell, L. M. 1995 Goddesses, Gimbutas and "New Age" Archaeology. *Antiquity* 69,74-86.
- Midgley, M. 1978. *Beast and Man: the Roots of Human Nature*. Hassocks, Sussex: Harvester Press.
- Midgley, M. 1994. *The Ethical Primate*. London: Routledge.
- Moore, G.E. 1903. *Principia Ethica*. Cambridge: Cambridge University Press.
- Ridley, M. 1996. *The Origins of Virtue*. London: Viking.
- Trivers, R. 1985. *Social Evolution*. Menlo Park Ca: Benjamin Cummings.
- Waal, F. de 1996. *Good Natured*. Cambridge Mass: Harvard University Press.
- Wang, Yucheng 1997 Lun Houtaizi yuanshi nuxing fenwan xilie shidiao (On the Houtaizi stone sculptures as depicting a birth-giving process). *Wenwu Jikan* 1,57-61.
- Williams, G.C. 1988. Reply to comments on "Huxley's evolution and ethics in sociobiological perspective". *Zygon*, 23, 437-438.