

The Evolution of Morality and Religion

DONALD M. BROOM

*Department of Clinical Veterinary Medicine and St Catharine's
College, University of Cambridge*



Contents

Preface	<i>page</i> ix
Acknowledgements	xii
1 Concepts and codes of living	1
1.1 Concepts of morality and religion	1
1.2 The complexity of brain control	4
1.3 Ideas about the origins of morality	10
1.4 Morality distinguished from sexual and other customs	14
1.5 Codes of conduct	16
1.6 Consequences of social evolution	19
1.7 Cooperation and morality	22
1.8 Morality and religions	26
2 Cooperation, altruism, reciprocal altruism	30
2.1 The commonality of genes and the concepts of altruism	30
2.2 Cooperative behaviour in animals	37
2.3 Competition, aggression and war	70
2.4 The evolution of altruism	75
3 Biological capabilities needed for altruism and morality	84
3.1 Capabilities	84
3.2 Which brains would allow reciprocal altruism?	84
3.3 The capacity for recognising others	87
3.4 Awareness and consciousness	90

3.5	Feelings and emotions in relation to morality	98
3.6	Cognitive responses to moral issues	105
3.7	What is needed biologically for morality?	109
4	Ideas about morality	115
4.1	What is right and what is wrong?	115
4.2	Obligations, rights and evaluation	127
4.3	Knowledge and conscience	134
4.4	Morality in relation to codes of sexual behaviour	140
4.5	Development of morality in the young	152
4.6	Morality and law	157
4.7	Conclusions about the evolution of morality	161
5	The origins and value of religion	164
5.1	The moral core of religion	164
5.2	Other aspects of religious practice	168
5.3	Goodness, glory and paradise	173
5.4	The evolutionary basis of religion	176
5.5	The effects of new knowledge on religion	181
5.6	Harms associated with religious practice	185
5.7	The value of religions and their future	189
6	Other views about the origins of morality and religion	194
6.1	Morality, religion and biology as mutually opposed	194
6.2	The 'selfish' gene, sociobiology, morality and religion	197
7	Social and political consequences of this biological view of morality and religion	204
7.1	Government, free competition and the maintenance of a moral society	204
7.2	Our views of other species	212
7.3	Morality and religion in other species	217

8	Conclusions	223
	References	230
	Species list	246
	Author index	248
	Subject index	252

Preface

The principal arguments presented in this book are: firstly, that morality has a biological foundation and has evolved as a consequence of natural selection acting in various species and, secondly, that religions are essentially structures underpinning morality. It is argued that morality and the central components of religion are of great value.

Many philosophers and theologians write about morality and its origins without any reference to biological processes such as evolution. Many biologists discuss phenomena which are of great importance to human morality and religion without taking account of the ideas of those who theorise about these subjects. I find both of these omissions very disturbing. How can anyone believe that they can adequately discuss a system without any consideration of how it works or of factors which affect its functioning? How can a scientist ignore substantial and relevant areas of intellectual deliberation?

In some books and papers about morality and religion, confusion has arisen because arguments are narrowly focused according to the academic discipline perceived to be involved. An awareness of other disciplines would reduce some of that confusion. Hence it is important to attempt to integrate different approaches and sources of information. Many important gaps in human knowledge exist because there is pressure on academics and others to put most of their effort into studies considered to be central in their discipline. This has the consequence that those areas which cannot be adequately understood without reference to ideas from more than one discipline are neglected or are treated less rigorously than those which are perceived to be mainstream in the discipline. The writings of those who would consider themselves to be

biologists, philosophers or theologians are referred to when introducing the general ideas in the book. My training is in biology but I have tried to explain ideas from each discipline and to present balanced judgements about them. Following this attempt at an interdisciplinary study, I hope that experts in each area will be stimulated to comment and take the arguments further.

General ideas about the concepts of morality, religion and relevant biological science, especially the origins of social living and behaviour, are discussed in Chapter 1. Morality is distinguished from sexual and other customs and the role of moral codes as a basis for religion is explained briefly.

In Chapter 2 the extent to which animals of various species, including man, cooperate and show altruistic behaviour towards kin and non-kin is described. When behaviour with each kind of function is discussed, the possibilities for it being cooperative or just competitive are considered. The genetic basis of some of the mechanisms underlying cooperative and altruistic behaviour is explained, as are possible ways in which such behaviour might have evolved.

Since the importance of the key concept of reciprocal altruism has been emphasised in the first two chapters, in Chapter 3 there is a review of the level of sophistication of brain functioning which is necessary for vertebrate animals to be able to show it. Ideas about awareness, consciousness, feelings and cognitive responses are presented with reference to morality in humans and other species.

The first part of Chapter 4 concerns the range of views about what is right or wrong, what people should do and how they should decide what to do. Problems associated with the concept of rights are presented and the idea of conscience is discussed. Questions about the inter-relationships between morality and sexual, developmental and legal matters are then explored in detail. At the end of the chapter, one of the central propositions of this book, that morality has evolved, is presented.

Religion of some kind is ubiquitous in human society. It is argued in Chapter 5 that the common aspect of religions is a moral code which in each of them is largely the same. This central aspect of religion, and some other aspects, have evolved. There are problems associated with certain divisive aspects of religions but the core of religion is of great value and will persist. Suggestions for future conduct of religions are presented.

In Chapter 6, views contrary to those expressed in the previous chapters are presented and discussed. These range from diatribes against evolution by theologians to diatribes against religion by some sociobiologists.

The final chapter, Chapter 7, concerns the social and political consequences of this biological view of morality and religion. The way in which individuals should act and the way in which governments should act is discussed. What should be our view of 'us' and 'them' in relation to other humans and individuals of other species? To what extent is there morality and religion in other species?

I Concepts and codes of living

1.1 CONCEPTS OF MORALITY AND RELIGION

Something is *moral* if it *pertains to right rather than wrong*. The question of what is right, or good, or beneficial is discussed further in Chapter 4, Section 1 but, as Midgley (1994 pp. 13–14) has emphasised, morality should not be thought of as a topic which is obscure and difficult to comprehend. We each have many clear ideas about actions which are good or not good. Planalp (1999 p. 161) states that:

To behave morally is to judge right and wrong, good and bad, and to behave accordingly.

Hence decisions about moral issues are taken many times during every day. People ‘behave morally’ most of the time and often discuss questions of what is right or wrong. In doing this they express an interest in *ethics* which is *the study of moral issues*.

Most people who refer to moral acts are considering a circumstance where there is some interaction with other individuals. These individuals that are the subject of moral acts are often, but not necessarily, of the same species. They are usually alive at the time of the act but the action may affect individuals at a later time or may affect those as yet unborn. The idea that another individual is affected by a moral action is clear in Rottschaefer’s (1998, p. 42) statement:

Moral actions and intentions can be discussed either in terms of providing benefits or in terms of refraining from harming.

The benefits and harms are effects on other individuals. These may actually accrue to the individuals or they may be potential effects which would result if an intended or planned act were carried out. Individuals could have moral intentions even if the act was not followed by

the expected beneficial effect on another. Actions which would never affect another individual are not moral or immoral.

Moral actions form part of moral systems within societies. Alexander (1987 p. 1) writes:

Moral systems are societies with rules. Rules are agreements or understandings about what is permitted and what is not, about what rewards and punishments are likely for specific acts, about what is right or wrong.

He considers that moral behaviour consists of following rules and not cheating. These and many other authors are referring to actual or potential impacts on others when they consider what is moral.

In order to act in a moral way, some degree of responsibility for actions is needed. Aristotle (330 BC in Sections 1109 b30–1111 b5) proposed that the six kinds of knowledge requisite for being responsible are to know: what you are doing, who you are, what or whom you are acting on, and to what end and to what degree you are doing it. Fischer and Ravizza (1998 p. 25) extend this argument by saying:

A person can be morally responsible for his behavior. Moral responsibility, however it is understood, appears to require some sort of control.

The question of control is explained further in Section 2 of this chapter. If individuals had no control over their actions, they would not be responsible for them, so a brain which enables them to have some degree of control is a prerequisite for moral behaviour.

An individual with the capacity to be responsible must have some ability to think and hence to behave in a rational way. Kant (1788) argued that rationality is a foundation for morality and conversely (according to Porter 1995 p. 9):

Kant's own work is largely motivated by a desire to show that morality has a central place in rational discourse.

Bentham (1781) also drew parallels between discussions about morality and rational investigation. Some recent definitions of morality include reference to rationality; for example, Gert (1988 p. 6) states:

Morality is a public system applying to all rational persons governing behavior which affects others and which has the minimization of evil as its end, and which includes what are commonly known as the moral rules at its core.

The reference to a 'public system' could be misleading here as it might imply that the morality would not apply in situations involving two or three individuals. Gert (1998, p. 5) also says that some people 'define morality as the code of conduct that would be adopted by all rational persons' and 'morality is a system that all rational persons advocate that other people adopt, whether or not they adopt it themselves'. As soon as there are references to control, thinking and rationality in an explanation of morality, a proportion of people will stop thinking of any individuals, except those humans who have developed such abilities, when considering moral behaviour. However, each ability is present to some extent in young children and in animals of other species.

The description and elucidation of moral problems has long been a subject of great discussion. Kant (1788) advocated analytical debate about moral issues and he thought that this could determine the uniquely correct answer to any moral question. However he did not believe that it is possible to devise moral principles, for he said:

Who would want to introduce a new principle of morality and, as it were, be its inventor, as if the world had hitherto been ignorant of what duty is or had been thoroughly wrong about it.

Some modern philosophers have gone much further than this; for example, Williams (1985) considered that there should not be attempts to develop theories about morality. The argument that some prohibitions of actions are central tenets of moral dogma which should

not be questioned is presented and discussed by many authors, e.g. Anscombe (1958).

Every major religion includes widely known positions on a variety of moral questions (see Chapter 5). However, definitions of religion often include statements about belief which are difficult to verify objectively. The following definition is more descriptive. *A religion is a system of beliefs and rules which individuals revere and respond to in their lives and which is seen as emanating directly or indirectly from some intangible power.* The power may be considered to be either an individual deity or a profound consortium of interests. These beliefs and rules form the basis for individuals' attempts to conform with their own evaluation of what the power would construe as right. There are very many statements of what particular religions are, an example being that of Sykes (1984, p.246):

Christianity from the Christian standpoint is the response appropriate to the undeviating goodness of God.

If the words Islam, Muslim and Allah were substituted in this sentence, it would probably be acceptable to a further large section of the world.

1.2 THE COMPLEXITY OF BRAIN CONTROL

In every aspect of human functioning we can usefully look for parallels and origins in other species. As a biologist, it seems to me entirely normal to say that we humans are animals, to include humans as one of the animal species and to refer to 'humans and other animals', and not to 'humans and animals' as if these were fundamentally different categories. However, many people do not think in this way. In order to counteract this view Midgley (1978) felt the need to state in the introduction to *Beast and Man: the Roots of Human Nature*:

We are not just rather like animals, we are animals.

It will be assumed, throughout this book, that humans are animals. This does not mean that humans are identical to any other animal.

The extent of similarity is explored further in Chapter 2, Section 1 and some human views of other species are discussed in Chapter 7, Section 3.

In order to be able to appreciate the extent of control exerted by individuals who may or may not act in a moral way, we have to consider the functioning of the brain in man and other social animals. When attempting to describe and understand the extent of control over their behaviour which individuals have and their interactions with their environment, including other individuals, biologists have often been afraid to postulate the existence of complex mechanisms. Many people who discuss non-human species are reticent about referring to their purposive behaviour, the cognitive ability of the individual, the existence of complex concepts in the brain, or the degree to which terms such as aware, conscious, or moral can and should be used. Theories about these aspects of the functioning of the brain and attitudes to them have been considerably affected by zealous adherence to the use of Occam's razor and Lloyd Morgan's canon. William of Occam (1285–1347) presented a principle of parsimony which commended a bias towards simplicity in the construction of theories. This principle, which was utilised specifically in relation to brain function and the control of behaviour by Lloyd Morgan (1896), has been held as an axiom by those who argue that no complex mechanism should be accepted as the explanation for observations if a simple mechanism is an alternative explanation. In several aspects of biology where the underlying mechanisms are complex, this approach can lead to false conclusions. Crick (1989, p. 138) stated that the use of Occam's razor is dangerous in biology and referred to physicists looking for the wrong kind of simple generalisations. The brain is extremely complex in its function and it is my view that progress in understanding thought processes and the control of behaviour has been slowed down considerably by an excessive desire to use simple theories. Erroneous ideas which are a consequence of this way of thinking include: animals are automata; much of behaviour is controlled by 'instincts' or by mechanisms involving only simple stimulus–response links; habituation is

always a simple process; learning is an occasional event in life rather than a very frequent event; human babies and non-human animals do not feel pain; the systems controlling interaction with the environment of an individual operate exclusively by negative feedback rather than by more demanding feed-forward control; anxiety, boredom and intellectual pleasure are confined to a small proportion of gifted humans. These ideas are now refuted by many, including the author (Broom 1981 p. 13, 1998, Broom and Johnson 1993, p. 25). The investigation of more complex mechanisms has often been blocked, or not seriously contemplated, because of the pressure on scientists and others to look for and investigate the simplest explanatory mechanisms. Papers and other scientific writings have been criticised or ridiculed because serious consideration was given in them to an explanation of brain function and behaviour which was not the most parsimonious available. In some cases, the more parsimonious explanations have been found to be correct and there is a danger associated with moving too rapidly to the conclusion that an individual has some elaborate ability or controlling system. However, where complex mechanisms may exist, they should be investigated in a balanced way.

Since the writings of Sechenov (1863), most scientists have accepted that behaviour is controlled by the brain and that thoughts, decisions, hopes and beliefs are located in the brain and in no other organ. These views have been gradually accepted by others in society but it is still not uncommon to hear people referring erroneously to feelings, hopes, beliefs or even decisions as being located in the gut or heart. An underlying implication of distinguishing between brain functions and the supposed heart or other body functions is that analytical thinking is different in some fundamental way from the more important and less calculated processes in life. People may feel uncomfortable if the seat of their decisions about what should or should not be done, and of their aspirations, desires and reverences is said to be the mechanistic organ which they perceive the brain to be. Those who have moved away from referring to the heart or other body parts as being the alternative site to the brain have often found solace in

making a distinction between mind and brain. The brain does not act in isolation from the body for we now know that most body control systems involve complex interactions between the brain and cells and organs in the rest of the body. Information of various kinds is stored outside the brain, for example in the cells of the immune system (Dantzer 2001), and new information comes into the brain from many sources in the body. However, the complex analysis of the available information is carried out in the brain.

There is discussion amongst philosophers about this distinction between mind and brain but whilst this discussion might occasionally raise an interesting point about brain function, I believe it to be a sterile argument. It is my view that the mind is part of the brain and all of the processes attributed to the mind are a part of brain function. It is not useful to view the brain as consisting of two separate parts, one of which is the mind (see Chapter 3, Section 4). The substantial literature on this subject is not reviewed here as I have found no need to use the word mind in the remainder of this book.

The systems in the brain involve processes which range from relatively simple to very complex. An example of a simple decision taken in the brain is that which leads to the cessation of all movement for a few seconds when a sudden loud noise is detected. This clearly involves a different complexity of processing from that which occurs when deciding what kind of communication to initiate with another individual about a delicate subject in a circumstance where several slowly changing social factors must be taken into consideration. There are many kinds of interaction with the environment of an individual which are complex and involve difficult and wide-ranging analysis in the brain. However, amongst the most complex are those which occur in a long-lasting social group. Within groups of free-living individuals, each of which can behave in a wide variety of ways, the prediction of the optimal way to act is very challenging for every group member. Chance and Mead (1953) argued that the enlargement of the neocortex of the primate brain had occurred because of the complexity of the social situation with which the individuals had to contend. Jolly

(1966) was more specific in proposing that group living would lead to selection for intelligence. The idea was taken further by Humphrey (1976) who stated, firstly, that primates have intelligence which is surplus to that required for normal daily maintenance and, secondly, that social complexity might have been the significant selection pressure promoting primate intelligence. Byrne and Whiten (1997), in a book which explores primate intelligence in social situations much further, explained (p. 2) that Humphrey referred to:

social manipulation to achieve individual benefits at the expense of other group members, but without causing such disruption that the individual's membership of the group is put in jeopardy. Particularly useful to this end would be manipulation in which the losers are unaware of their loss, as in some kinds of deception, or in which there are compensatory gains, as in some kinds of cooperation.

Although the idea of complex intellectual processes having evolved as a result of long-lasting social living was developed by those who study primates, it is clear that these abilities are also present in socially living ungulates such as cattle, sheep and pigs, carnivores such as wolves, cetaceans such as dolphins, birds such as jays, ravens, parrots, babblers and fairy wrens and probably in some fish, bees and ants.

Attempts to relate brain size to intellectual ability in mammals and birds (e.g. Jerison 1973) have been shown to be worthwhile only when comparing rather diverse animals. Within taxonomic groups of animals, diet and ranging behaviour are not consistently related to brain size (Harvey and Pagel 1988, Harvey and Krebs 1990, Barton and Dunbar 1997). Positive correlations have been found between the size of the hippocampus, a part of the brain which is involved in learning and memory, and the practice by birds (Krebs 1990) and rodents (Jacobs *et al.* 1990) of storing food in hidden caches. There is also clear evidence that the neocortex ratio (neocortex volume divided by the volume of the rest of the brain) is larger in those group-living primate species that live in larger rather than smaller groups and hence, presumably, have more complex relationships (Sawaguchi and Kudo

1990, Dunbar 1992). Similarly, carnivores living in larger groups have a larger neocortex ratio than those living in small groups and the vampire bat, which lives in stable groups and shows reciprocal grooming and feeding (Wilkinson 1990), has a larger neocortex ratio than *Phyllostomus discolor*, a less social frugivorous bat (Barton and Dunbar 1997).

The control by individuals of their interactions with their environment during life, which is important for survival, involves motivational systems (Broom 1981, Chapter 4, Broom and Johnson 1993, Chapter 4). The effective functioning of motivational systems depends on the quality of the input to the decision-making centres in the brain. In a very complex environment, such as one which includes many social group members, adequate control requires good quality input and effective decision-making processes. One form of control is that which occurs by negative feedback; for example, when an action is taken and the consequences are monitored and have some corrective effect on the way in which that action is continued. Another form of control, which can result in greater stability of the system, is feed-forward control, in which destabilising events are predicted before they occur and actions are taken to prevent the disturbance of the stable state. The utilisation in feed-forward control of experience, memory and other information to predict and prevent possible perturbations of state requires more brain processing capability than that which is needed for most negative feedback control systems.

An ability to control is important for moral actions. Blum (1980, p. 3) states that 'morality must involve self control' and the importance of control in all aspects of moral responsibility is emphasised by Fischer and Ravizza (1998). The subject of control in social and other situations has been investigated during much ethological and psychological research. Dennett (1984, p. 51) says:

We want to be in control, and to control both ourselves and our destinies. But what is control, and what is its relation to causation and determinism? Curiously, this important question has scarcely been addressed by philosophers.

The subject of free will and the relationship between the concept and our knowledge of brain function is one which is also worthy of discussion by neurobiologists. Even though some responses of humans and other species have a partly automatic component, there is much scope for the actions of individuals to be modified following thought and hence to involve free will. Many actions that can have a significant impact on other members of a social group, carried out by mammals, birds and probably other vertebrate animals, involve free will. Even those which are wholly or largely involuntary, such as startle responses when danger is perceived or movements required to obtain a food item, have some potential for deliberate modification and in some species can be mimicked in order to deceive a watcher.

1.3 IDEAS ABOUT THE ORIGINS OF MORALITY

For many people in the past and in recent years it has been impossible to disentangle morality from religion and hence to consider an origin for morality except as coming from a deity. This point is developed further in Chapter 5. Midgley (1994, p. 109) says:

Until quite recently, this whole range of questions about the source of morals was answered in our culture by a series of powerful myths.

As a consequence of religious or traditional explanations, many people did not expect to think much about the basis of moral actions. Those who did think and write about the issues referred to external guidance and sometimes to intrinsic human qualities. Adam Smith did both: in 1776 (p. 423) he described human intentions and actions as being guided by an invisible hand to promote an end which is in the interests of society whilst in 1759 (p. 9) he said that Man possesses capacities:

which interest him in the future of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.

For many people in the past and some now, moral guidelines have been considered to exist and to be usable without any human intellectual contribution or questioning being necessary or desirable. Such people are referred to as transcendentalists by Wilson (1998, p. 265) who contrasts them with empiricists who think of moral guidelines as contrivances of the brain. Wilson summarises the transcendentalist view and then presents his own empiricist view as if religion had little part in it. The view presented in this book follows many of Wilson's evolutionary arguments but extends them to explain that religion should be viewed as within the structure which has evolved and not outside it (Chapter 5, Section 4). Wilson's emphasis of this dichotomy impedes understanding in my opinion (Chapter 6, Section 2.2).

T. H. Huxley, the great champion of Darwin's theories, thought of morality as a weapon to be used against human nature. This view, which is quite contrary to the arguments in this book that morality has evolved, is nicely summarised by de Waal (1996, p. 2) as follows:

Viewing nature as nasty and indifferent, he depicted morality as the sword forged by *Homo sapiens* to slay the dragon of its animal past.

Huxley (1894, p. 83) said:

The ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in combating it.

Some philosophers have been disturbed by any attempt to explain scientifically any aspect of morals. Indeed, 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, a view which had a stifling effect on the development of this area of philosophical theory for generations (Johnson 1993, p. 140). During the first two-thirds of the twentieth century, there was a strong tendency for philosophers, psychologists and anthropologists to speak as if human culture and its moral structure was either divinely inspired or arose out of

nothing. In recent years, the opinions of philosophers interested in ethics about how to use biological information concerning man and other species have often been to ignore all of it completely or to dismiss it as irrelevant. In some cases, this is because parts of the information are irrelevant and the key aspects appear not to be fully understood. Rottschaefer (1998, p. 14) states, after some mention of cognitive capacities and motivation:

What we seem to want to know is the meaning of our lives and, perhaps most important, the meaning of ourselves as moral agents. All the biological and psychological information in the world about our moral agency and its sources doesn't seem able to give us that answer.

Some evolutionary biologists have also differentiated sharply between morality and characteristics which have evolved. In the midst of a strong argument about the importance of evolution by natural selection in social life, Dawkins (1976, p. 215) says:

We, alone on earth, can rebel against the tyranny of the selfish replicators.

with the implication in subsequent text that morality is not a part of evolved characteristics. Alexander (1979, p. 276) presents the view that evolution has nothing to say about normative ethics, about what people ought to be doing. A rather confusing argument from Williams (1988) is:

I account for morality as an accidental capability produced, in its boundless stupidity, by a biological process which is normally opposed to the expression of such a capability.

As explained in the next section of this chapter and in Chapter 4, Section 4, confusion between true morality and sexual customs may account for some statements of this kind by Alexander, Williams and others.

The importance of cooperative behaviour and the fundamental virtue of Man are the central themes of the writings of Kropotkin (1902). Until recent years, this book has had little influence. Some of those who sought a basis for ethics emphasised that scientific information must be taken into account. One, whose approach was called naturalistic, was Sellars whose view of what is important included connections between what he called the manifest and scientific images of humans (Sellars 1963). Such general statements did not encourage careful thought about any biological basis for morality. A much stronger, if somewhat tactless, encouragement in this direction came from Wilson (1975, p. 562):

the time has come for ethics to be removed temporarily from the hands of philosophers and biologicized.

The idea that consideration of the biological basis of morality is at odds with the concept of humans being able to take important ethical decisions was criticised by Midgley (1978, p. xviii):

The notion that we 'have a nature', far from threatening the concept of freedom, is absolutely essential to it. If we were genuinely plastic and indeterminate at birth, there is no reason why society should not stamp us into any shape which might suit it.

Midgley goes on (p. 174) to argue that more careful consideration of the biological basis for morality means 'philosophising better'. It was thought by Dennett (1995, p. 468) that ethics must be based on 'an appreciation of human nature' and Brandt's theory of ethics is based on 'spontaneous beliefs' (1996, p. 174). Detailed expositions of the biological basis of morality are presented by Ridley (1996) and de Waal (1996) who (p. 2) says:

Given the universality of moral systems, the tendency to develop and enforce them must be an integral part of human nature.

The widespread occurrence of cooperative behaviour and its particular value are described in Chapter 2, Section 2 and arguments for the evolution of altruism and morality are presented in Section 7 of this Chapter, Chapter 2, Section 4 and Chapter 4, Section 7.

1.4 MORALITY DISTINGUISHED FROM SEXUAL AND OTHER CUSTOMS

The argument that is introduced in this Section and developed in Chapter 4, Section 4 is that 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 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, and, as a consequence, the practice of clitorrectomy. Once such a practice exists, there can be an argument that its continuation helps to maintain stability in the social group because women are less likely to be unfaithful to their husbands. However, there are counter arguments: one is that an individual should not be deprived of body tissue and a particular sensory capability and another is that sexual pleasure may help to strengthen pair bonds and hence social group stability (Broom 1998).

In an attempt to describe what is good for every individual, J. Griffin (1986, p. 67) lists:

- (1) personal accomplishment,
- (2) freedom to decide what to do, by one's own rights, without constraint,
- (3) having the basic capacities (to move one's limbs, the minimum material conditions required for life, freedom from pain and anxiety),
- (4) understanding of oneself and the world,
- (5) enjoyment, and
- (6) having deep personal relations.

This list has close parallels with the list of five freedoms which Brambell (1965) said should be provided for farm animals and which has been used by the UK Farm Animal Welfare Council. For socially living animals, including humans, Griffin's list might be augmented, or specified, to include acting in such a way as to remain in the social group and to maintain group stability. In compiling his list, Griffin did not include any reference to sexual behaviour.

Some actions are always wrong, in my view, and can never be justified by a beneficial consequence. However, in considering what is bad for every individual, the lists produced by many people would include certain kinds of sexual activities. Some of such lists would state that any kind of sexual interaction between most possible pairs of individuals in a society is wrong. However, I consider that sexual acts are not in themselves wrong and advocate the consequentialist argument that moral judgements about sexual activity should concern whether or not there are harms to individuals as a consequence of it. In any sexual interaction, it is the consequence, rather than the interaction itself, which may mean that the interaction is wrong. Sexual behaviour is wrong if it: produces offspring who will not receive adequate care, or damages a relationship, or results in abnormalities during development in the young, or creates false and damaging expectations, or causes other harms such as disease in the individuals involved. This argument can be applied when considering all sexual customs in order to determine whether or not, and how, they might be related to questions of morality.

There are other actions, or failures to act, which are really customs but might be regarded as morally wrong by some people. Conventions about ways of eating or dressing are not in themselves moral issues, as emphasised by Brandt (1996 p. 61), but the consequences of failing to abide by them do have to be considered. If the consequence of such a failure was that the person who did not carry out the appropriate act lost some esteem in the eyes of others, that is clearly no moral issue. However, if that failure caused severe distress to a third party, and this distress was predictable by the person acting,

the failure would have moral connotations. Some religious practices might be considered to be customs which are not, or not necessarily, associated with moral issues. As Gert (1988, p. 256) puts it, 'people may fail to distinguish between a religious support for morality and a religious support for its own particular rules or ideals' and the latter need not be equated with morality. The religious practices may serve a useful function in helping to strengthen social bonds in the community, or in providing comfort for individuals, but failure to conform with them would not in itself be morally wrong. Again, the consequences, for individuals and the group as a whole, of not conforming need to be assessed when deciding whether there is a moral issue.

Care must be taken and all kinds of possible consequences considered when deciding whether a custom has moral consequences or not. For example, van Schaik *et al.* (1999, p. 222) describe various aspects of the behaviour and physiology of female monkeys which minimise the risk of infanticide by males. One of these is variability in the strength of signals that ovulation is occurring, such as sexual skin colour and mating calls, and another is the occurrence of sexual activity outside periods of regular ovular cycles. These are the kinds of physiological changes and behaviours which might be taken to indicate undesirable coquettishness or promiscuity and which might in human society be the subject of sexual customs, but which have a biological function in helping to increase the number of offspring which survive.

1.5 CODES OF CONDUCT

Codes and rules of conduct, which include issues of great importance, are widespread in human society. Midgley (1978, p. 298) said that: 'rule formation is a universal human characteristic' whilst Wilson (1978, p. 185) proposed:

To counteract selfish behavior and the dissolving power of high intelligence and idiosyncrasy, each society must codify itself. Within broad limits, any set of conventions works better than none at all.

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, p. 38) 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 (see Brandt 1996, pp. 78–79). This moral core of religion is expanded upon in Chapter 5, Section 1. Bischof (1978, p. 50), considering a variety of human societies, presents a list of moral norms based on:

- (1) those which protect against the unbounded self-interest of others, e.g. murder, theft, witchcraft, slander, adultery;
- (2) marriage rules which proscribe partners who are so closely related that there would be incest or are so distantly related that a racial taboo would be involved;
- (3) spiritual rules honouring gods, ancestors or totems;
- (4) those which establish and corroborate personal maturity, e.g. moderation, asceticism and abstinence;
- (5) rules to spare society from observing sexual intercourse, defaecation, menstruation, birth and death.

Some of these rules are customs, as discussed in Section 1.4 rather than always being morally important. A list of moral rules relating to impacts on other persons (Gert 1988, p. 98) forbids killing, causing pain, disabling, depriving of freedom and depriving of pleasure whilst enjoining others to obey the rules.

Some of these rules would seem to be relevant to any society whilst others are most relevant to societies with particular characteristics. The rules which minimise the likelihood of serious harm being caused to another individual come into the first category and, as Brandt (1996, p. 71) points out, they include a moral obligation not to cause an accident to another individual. Society condemns, albeit to different degrees, 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, for example leaving a large hole in the ground uncovered in the dark or giving a child a dangerous weapon. 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 it will be shared. Ridley (1996, p. 115) argues that humans were hunter gatherers with intermittently plentiful food for a large proportion of their existence as a species so the code that windfalls of food should be shared evolved. Even as agriculturists, there were periods of plenty when the harvest might be shared and periods of severe need when those with much stored food might give to those without. Such situations still exist today and there is a parallel with the Lottery winner who is expected to share with their family, with members of their immediate social group and with the deserving in the wider community. An example of a society with particular characteristics requiring different rules is one which encourages retribution for harmful acts remembered from the past or favours returned after a long time-lag. An example of this, the largely obeyed code which requires children to care for elderly parents, is discussed by Alexander (1987, p. 89).

It is of value for individuals to abide by their society's rules and codes because of sanctions if they do not and because of increased stability in the society in which they live if they do. Kummer (1978, p. 42) discusses this issue:

In a moral society, the individual respects the norms not only in order to avoid sanction and to seek the reward of acceptance but also to weigh his value of himself by the degree to which his conduct during life matches the ideal which his culture has set up for an individual of his class. Approaching the ideal is at the same time a third kind of incentive for moral behaviour and a new, non-biological 'function' of morality: the meaning of the subject's life to himself.

The advantages of having some rules, codes or norms in a society apply to all societies.

As explained in Chapter 4 there will be much variation in the customs of societies but little or no variation in true moral codes. Whilst de Waal (1996, p. 36) cautions that variability in moral codes must not be ignored, the real meaning of moral codes and the important distinction between these and sexual and other customs should be borne in mind. Gert (1988, p. 4) explains that differences between codes of conduct in different societies 'often mask essential similarities'. However, Gert appears to be considering sexual customs when stating that the work of anthropologists shows 'that there is no universal morality'. Midgley (1978, p. 37) derides the description of various peoples encountered by European explorers and colonisers as savages because they were unfitted for society. These people had different customs which were emphasised in the explorers' categorisation as savages but the similarity of the latter's true moral codes was often ignored. Indeed, such peoples were often assumed to have no moral code. To some extent, this was because the colonisers did not wish to show to them the same moral obligations that they would be obliged to show within what they regarded as their own society. Midgley (1978, p. 30) points out the savagery of the white hunter in Africa as compared not only with indigenous peoples, but with other social species there. When good quality anthropological studies of supposedly primitive peoples have been conducted, they have demonstrated the existence of moral codes as well as various customs. There have been reports of apparent contradictions to this but some were subsequently shown to be the result of calculated misinformation by the supposedly primitive subjects, in order to deceive the stupid foreigners. Others, such as Turnbull's (1972) study of the Ik people, seem likely to have been much affected by the fact that the whole world of those people was being destroyed. The extent to which there are codes of conduct in other species is discussed in Chapters 2 and 3.

1.6 CONSEQUENCES OF SOCIAL EVOLUTION

Each cell in an animal or plant is a result of collaboration in that the chloroplasts in plants and the mitochondria in both animals and plants are thought to have originated as free-living organisms which were

more successful when they functioned within the cell milieu than outside it. There is also collaboration between different cells with different functions in a body. Although these cells share the same genes, they differ in that genes are expressed to different extents in different cells. The genes compete with one another for bodily resources but the functioning of most depends on effective collaboration. Multicellular individuals may also cooperate and one may remain in contact with another, sometimes living colonially. In some colonial animals, such as corals, the individuals are very similar to one another but in the complex free-swimming Siphonophora, such as the Portuguese man-of-war, different zooids have different functions in a free swimming colony. Colonial and social animals dominate much of the world. The shallower waters of the tropics are dominated by corals and the seas generally are exploited especially well by shoaling species of fish and squid. Much of the land is dominated by ants, social herbivorous ungulates, rodents and primates. The most successful birds spend part or all of their lives in social groups. The fact that the social species are so successful indicates that, although there will always be competition as well as collaboration, the latter is more important in many aspects of life.

The various functions of social behaviour are discussed in detail by Broom (1981, p. 176). Animals can create a more favourable micro-environment by grouping, and some, such as termites, ants and humans, can do this particularly effectively by building structures in which to live. Food finding is important at all times but especially so when food is scarce. Birds which roost communally at night and flock during the day may survive periods of low food availability because they use the knowledge of others to obtain some food at these times (Ward and Zahavi 1973). Animals living in groups can learn new feeding methods by watching others and may be able to collaborate in acquiring, handling and defending food.

Many of those who have considered the functions of group living in humans or other primates have described the increased chances of predator avoidance which it confers. One example of a study of

monkeys which indicated that group size is affected by predation is that of van Schaik and van Noordwijk (1985), who found that long-tailed macaques lived in larger groups when there were predators such as clouded leopards, golden cats and tigers in the area than when there were no feline predators. The conclusion from such studies by van Schaik (1983) was that:

the lower threshold to group size is set by predation, the upper limit is posed by feeding competition among group members.

Young animals are particularly vulnerable to predation and de Waal (1996, p. 171) points out that protection of the young is easier in various animals such as monkeys, elephants and dolphins, because they are in groups. The question of why humans live in groups is reviewed by Alexander (1987, p. 79). The proposed link between intelligence and complexity of social life is discussed in Chapter 1, Section 2.

Mate-finding is also much easier when living in groups than when solitary and there are various possibilities for collaboration in rearing young and helping relatives when in a group. Group-living can have various functions but this does not mean that each of these functions was concerned with the origins of group-living in any species, for this has arisen by several evolutionary routes (Broom 1981, p. 191).

When considering the possible effects of genes which promote group-living, as offspring will often be with parents after rearing, the first question should not be 'why aggregate?' but 'why separate?' (Broom 1981). Competition between parents and offspring, or between peers, forces separation but advantages such as better environment modification, food acquisition, predator avoidance or help for offspring may counteract this. Where food or hiding places are patchily distributed, as they frequently are, aggregation at a food source or a hiding place may occur. Once animals are aggregated, Broom (1981, p. 192) proposes five routes towards staying in the group and hence living socially: (1) predation risk is reduced by getting into the middle of the group (Hamilton 1971); (2) predation risk is reduced because early warnings from others in the group about danger can be used; (3) when

food is depleted, an individual which knows where to find food can be followed (Ward and Zahavi 1973); (4) offspring stay with parents because they learn from them about social techniques, feeding methods and predator avoidance methods; or (5) close relatives survive better if the individual stays in the group. The possibility of advantageous collaboration in feeding and the possibility for substantial and useful modification of the environment are other possible factors promoting group-living.

1.7 COOPERATION AND MORALITY

Hans Kummer, a pioneer in demonstrating the sophistication of social organisation in monkeys, observed that (Kummer 1978, p. 43):

The essential benefit of social life is cooperation, its essential disadvantage competition.

Social living allows various possibilities for cooperation, provided that the individuals have the abilities to exploit these. John Crook, who has studied social behaviour in humans, other primates and birds, stated (Crook 1980, p. 185):

with a large population living under conditions of finite plenty, there will be in the ethics of the people an emphasis on collectivity, a power in the service of others, on the resolution of conflict without combat and on nepotistic values generally.

Group-living will necessarily lead to conflicts of interest between individual group members for resources such as food, resting places, positions of safety in the group, mates, opportunities for social influence, etc. Alexander (1987) and Goldsmith (1991) emphasise that concepts of what is moral or immoral exist because there are conflicts of interest and codes within social groups to resolve these.

Moral attitudes, and structures within animals which make them possible, have not persisted in populations by chance but because those individuals which had them gained selective advantage from having them. The basis for this is that certain genes would

promote moral acts and those genes which interact with the environment to produce beneficial characters in the phenotype of the animal are more likely to persist in the population. Those individuals which have moral attitudes and show moral behaviour are more likely to be able to collaborate effectively with other members of their own species and, to a lesser extent, with members of other species. The genes which promote morality increase the chance of being accepted as a collaborator because morality helps in the promulgation of anti-cheating methods and in persuading other individuals that the bearer of the gene is unlikely to cheat. It is not implied here that all social behaviour in humans, or any other species, is directed towards helping others or attempting not to harm others. Some of such behaviour which is competitive, predatory or careless is damaging to other individuals. However, the extent of harm done to others within a social group is much less than that which might be caused if short-term self-interest were thoroughly pursued, and the frequency with which good is done to others is much greater than that which would be expected at the level of chance. Selfish and vindictive behaviour will sometimes be advantageous but, in the longer term, provided that the advantages of living in a group or of some intermittent collaboration are substantial and are impaired by the selfish behaviour, failure to show altruistic behaviour is dangerous.

The propositions presented above are based on a series of premises and the argument that these premises, and what follows from them, are correct is the substance of much of the remainder of this book. Philosophers refer to the argument that morals are in some way a consequence of the biological functioning or nature of the individual as 'naturalistic'. The contrary view, that moral propositions are self evident, is presented by Brandt (1996, p. 4) and then strongly criticised by him. Biologists are more likely to support the naturalistic view, for example de Waal (1996, p. 2) says:

Given the universality of moral systems, the tendency to develop and enforce them must be an integral part of human nature.

de Waal also argues for the central role of social behaviour and the value of the social group in understanding morality, for example (de Waal 1996, p. 10):

'Social inclusion is absolutely central to human morality' and
'Immoral conduct makes us outcasts.'

Altruistic acts are those which, at least in the short-term, benefit one or more other individuals in that their fitness is increased and involve some cost, measured as actual or potential reduction in fitness, to the altruist. Very many people have referred to the role of altruism when attempting to explain the foundations of human society, or, more particularly, the way in which individuals should behave. Wilson (1978, p. 149) says:

Generosity without hope of reciprocation is the most cherished of human behaviors.

and

We sanctify true altruism in order to reward it and thus make it less than true, and by this means to promote its recurrence in others.

The altruistic act may be an isolated interaction between the two individuals, or may be directed towards a close relative, or may be to a greater or lesser extent reciprocated at some later time. However, its occurrence when noted by others can have an effect on relationships within the society. Crook (1980, p. 396) points out that altruism may:

serve both the biological fertility and the social security of individuals,

and would be:

a generalised rule of action, the distinction between nepotistic, reciprocal and 'real' altruism would cease to have much significance in a culturally altruistic world community.

Reciprocal altruism is more likely in long-lived species in which social contacts are prolonged (Trivers 1971). Broom (1981, p. 194) explains that reciprocal altruism is vulnerable to cheating and punishment of cheats may be costly and continues:

It is likely that reciprocal altruism is especially important and extensive in man because of our abilities to communicate and to recognise cheats. As a consequence of these abilities, a gene which promoted some form of reciprocal altruism would have been especially likely to spread in a human population . . . Many codes of conduct based on reciprocal altruism have been devised in human societies and these have been effective in promoting cohesion within the society which utilizes them.

These ideas were also emphasised by Trivers (1985, p. 393):

There can hardly be any doubt that reciprocal altruism has been an important force in human evolution.

and Alexander (1987, p. 77):

Moral systems are systems of indirect reciprocity. They exist because confluences of interest within groups are used to deal with conflicts of interest between groups.

If the arguments presented briefly above are followed, are moral systems likely to have arisen in species other than man? Before proposing that they have, de Waal (1996, p. 34) presents:

Conditions for the evolution of morality: 1 group value – dependence on the group for finding food or defense against enemies and predators; 2 mutual aid – cooperation and reciprocal exchange with the group; 3 internal conflict – individual members have disparate interests.

There are other valuable group-dependent functions in addition to those specified by de Waal. Food utilisation after it is found can be

better in groups; for example, crocodiles have difficulty pulling flesh off large prey but groups of crocodiles take turns to hold the prey whilst others pull off some flesh and then acquire some of the meat themselves while others hold the carcass. Another function is better thermoregulation in huddled pigs or wrens and in termites within a nest. Examples are detailed in Chapter 2, Section 2. Where de Waal refers to 'dependence on the group' and 'mutual aid', it may be that only two individuals are involved or there may be more complex interactions. If, with these small qualifications, de Waal's conditions are accepted, it is clear that there is a potential for the evolution of some degree of morality in many social animals. Midgley (1994, p. 129) criticises the idea of:

animality as a foreign principle inside us, alien to all admirable human qualities

and the summary of this attitude as:

the beast within us.

Midgley's view (p. 175) is that:

Morality . . . cannot be a thunderclap, occurring along with the instant invention of language at the moment of the sudden and final emergence of the human race.

1.8 MORALITY AND RELIGIONS

Three major arguments, presented briefly here and detailed in Chapter 5, are: firstly that moral codes are the core component of religions, secondly that some form of religion is an inevitable consequence of the necessity for moral actions and thirdly that religions are valuable to all because of their key aspects. It is important to distinguish between the fundamentals of a religion and structures or rituals which help some or many of the individuals who adhere to that religion to understand and practise the religion. The fundamentals, or central tenets, of the religion are those which promote the helping of others

and minimise harm to others, for example commandments, certain parables and the concept of God, gods, or spirits reinforcing these. The idea of a common good and of something greater than the individual, a common spirit, God or gods, helps moral systems to function. An example of religious teaching which closely parallels the arguments about biologically based morality presented in Section 7 of this chapter and indicates the relevance of the concept of God, is the statement by Jesus as recorded in the Bible, Matthew, 18: 15–20:

Moreover if thy brother shall trespass against thee, go and tell him his fault between thee and him alone: if he shall hear thee, thou hast gained thy brother. But if he will not hear thee, then take with thee one or two more, that in the mouth of two or three witnesses every word may be established. And if he shall neglect to hear them, tell it unto the church; but if he neglect to hear the church, let him be unto thee as an heathen man and a publican. Verily I say unto you, whatsoever ye shall bind on earth shall be bound in heaven: and whatsoever ye shall loose on earth shall be loosed in heaven. Again I say unto you, that if two of you shall agree on earth as touching any thing that they shall ask, it shall be done for them of my Father which is in heaven. For where two or three are gathered together in my name, there am I in the midst of them.

In this text, ‘thy brother’ means someone known to you, ‘the church’ means your community of people and it is made clear that there are very close links between earth and heaven and between people, God and Jesus.

Where moral codes are elaborate because of the variety of positive and negative effects which individuals can have upon one another, the long intervals between events which are relevant to one another for moral reasons, or the subtleties of inter-relationships within the society, a structure which is the basis of a religion is likely to develop. Moral codes have greater efficacy and universality if they are spelled out. In order that the codes will have effect, a belief that morally good or bad behaviour is monitored in some way, and that something or

someone controls reward or retribution, is necessary. Religions, and other sets of beliefs relevant to human conduct which may or may not be called a religion, will arise as the structure for the moral system which encourages the promotion of cooperation and the detection and discouragement of cheating. Examples of pseudo-religions, which include some of the characteristics of religions, are those which underlie trade groups in cities, political groups, freemasons, knights templar, aristocrats, the European Union and the United Nations. Some religions and pseudo-religions are viewed as pertaining to some rather small constituency and may have customs which encourage hostility to non-members, a position which is harmful and conflicts with the fundamental codes of all major religions. Such codes are reviewed in Chapter 5, Section 1.

The argument that religion has some biological basis has been presented by several authors and a few of them make a link between the evolutionary origins of morality and the existence of religion. Thorpe (1974, p. 378) says:

‘I consider man as essentially a religious animal’ and:
‘agree with Hobhouse that religion is progressive apprehension of the spiritual’.

Thorpe refers to a biological foundation to religion and explains his idea of the Holy Spirit and of God as all seeing but benevolent in relation to moral issues. However, he does not make the firm links which are made in this book. Many philosophers referring to moral or religious codes ‘rely on intuitions or considered beliefs’ (Brandt 1996, p. 5) with the underlying idea that these come from the functioning of the individual. The view of Wilson (1978, p.169) is that:

The predisposition to religious belief is the most complex and powerful force in the human mind and in all probability an ineradicable part of human nature.

This topic is discussed further in Chapter 5, Section 4.

Are there conflicts between the evidence concerning the evolution of behaviour, the existence of religions and the beliefs encouraged by religions? Midgley (1978, p. 127) clearly finds the reconciliation of evolution and religion difficult, as does Wilson (1975, p. 120):

When altruism is conceived of as the mechanism by which DNA multiplies itself through a network of relatives, spirituality becomes just one more Darwinian enabling device.

The serious problem with this statement is the word 'just' because the existence of a biological explanation does not devalue spirituality. It may well encourage people to be a part of a religion because they understand it and its benefits better. Writers who criticise and denigrate religion generally pick on what are actually rather peripheral structures and rituals, apparently without appreciating the central tenets. Some general statements by evolutionary biologists, see for example Dawkins (1993), such as 'religion is just like a computer virus' are bad science and indicate a failure to understand either evolutionary mechanisms or the complexities of organisation of societies.