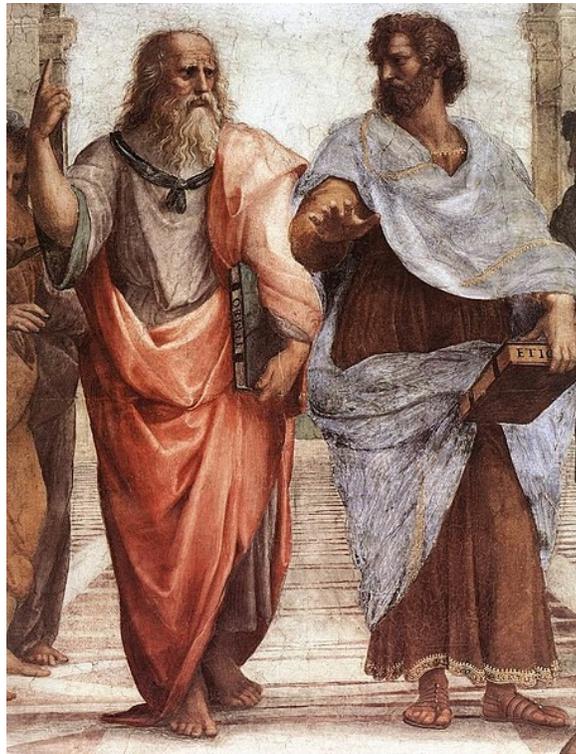


# **The Boyle Lecture 2019**

## **“Science, Religion and Ethics”**

**Michael J. Reiss**

Chair of Science Education at UCL Institute of Education



A Vote of Thanks to the Lecturer will be proposed by

**Janet Soskice**

Professor Emeritus of Philosophical Theology at the University of Cambridge

**St Mary-le-Bow, Cheapside, London - Monday 18<sup>th</sup> February 2019**

## **Background to The Boyle Lectures**

The original series of Boyle Lectures ran from 1692 until the early 1730s. Funded by a bequest from Robert Boyle, the celebrated seventeenth-century natural philosopher, the lectureship was re-established at St Mary-le-Bow in 2004. It now provides an annual platform for a distinguished scientist or theologian to explore the contemporary relationship between the two disciplines. The lectures aim to be faithful to the intention of their founder, who viewed religious faith and experimental science as mutually enriching.

The new Boyle Lectures are guided by an Advisory Board chaired by the Earl of Cork and Orrery (the 1st Earl of Cork (1566-1643) was Robert Boyle's father). The Lectures, re-founded by Michael Byrne and convened by him for 15 years, have received significant support and encouragement – both financial and in-kind – from a number of parties, to whom the Advisory Board remains deeply grateful. These include the Worshipful Company of Grocers, the Worshipful Company of Mercers, the Convener, the Boyle family, the discretionary funds of the Bishop of London and the Rector of St Mary-le-Bow, the International Society for Science and Religion, and individual members of the Advisory Board.

The Boyle Lectures are now an integral part of St Mary-le-Bow's pastoral programme, particularly in its aim to foster dialogue between theology and other disciplines. The 2019 Lecture will be the first given in association with the International Society for Science and Religion.

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# “Science, Religion and Ethics”

Michael J Reiss

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## Overview

How do we and should we decide what is morally right and what is morally wrong? For much of human history, the teachings of religion were presumed to be either the or a principal answer. Over time, two developments challenged this. The first was the establishment of the discipline of moral philosophy. Foundational texts, such as Kant’s *Groundwork of the Metaphysics of Morals*, and the growth of coherent, non-religious approaches to ethics, notably utilitarianism, served to marginalise the role of religion. And then, secondly, the twentieth century saw the rapid growth of evolutionary biology with an enthusiastic presumption that biology was the source of ethics. Here, I begin by discussing these developments and then examine the extent to which religion is still needed for a coherent account of ethics.

## Ethics

Ethics is the branch of philosophy concerned with how we should decide what is morally wrong and what is morally right. We all have to make moral decisions daily on matters great or (more often) small about what is the right thing to do: Should I continue to talk to someone for their benefit or make my excuse and leave to do something else? Should I give money to animal charities or to medical charities? Should I give more weight to my interests than to those of others when choosing for whom to vote in an election?

We may give much thought, little thought or practically no thought at all to such questions. Ethics, though, insofar as it is worth trying to make a clear distinction between it and morality, is a specific discipline that tries to probe the reasoning behind our moral life, particularly by critically examining and analysing the thinking which is or could be used to justify our moral choices and actions in particular situations (Reiss, 2002).

### *The way ethics is done*

Ethics is both a practice and, just as other intellectual disciplines, such as science, mathematics and history, are, a branch of knowledge. Ethical thinking is not wholly distinct from thinking in other disciplines but it cannot simply be reduced to them. Furthermore, ethical conclusions cannot be unambiguously proved in the way that mathematical theorems can. However, this does not mean that all ethical conclusions are equally valid. Some ethical conclusions are more likely to be valid than others.

One can be most confident about the validity and worth of an ethical conclusion if three criteria are met (Reiss, 1999). First, if the arguments that lead to the particular conclusion are convincingly supported by reason. Secondly, if the arguments are conducted within a well-established ethical framework. Thirdly, if a reasonable degree

of consensus exists about the validity of the conclusions, arising from a process of genuine debate.

It might be supposed that reason alone is sufficient for one to be confident about an ethical conclusion. However, there are problems in relying on reason when thinking ethically. In particular, there still does not exist a single universally accepted framework within which ethical questions can be decided by reason (O'Neill 1996; Parfit 2011). Indeed, it is unlikely that such a framework will exist in the foreseeable future, if ever. This is not to say that reason is unnecessary but to acknowledge that reason alone is insufficient. For instance, reason cannot decide between an ethical system which looks only at the consequences of actions and one which considers whether certain actions are right or wrong in themselves, whatever their consequences. Much of ethics still boils down to views about right and wrong informed more about what seems 'reasonable' than what follows from formal reasoning. When I, with a background in mathematics and the natural sciences, first started reading books on ethics, I was surprised at how often appeals to intuition were used. Indeed, when reading about 'trolley problems' (Foot, 1967; Unger, 1996), intuition not infrequently appears as a trump card. Mathematicians and those who work in the natural sciences are rarely convinced by appeals to intuition (consider, quantum mechanics and relativity).

Indeed, anyone with a background in evolutionary biology will be rather suspicious about intuition as a means of arriving at truth. Intuition is one of the ways in which humans make decisions. Unsurprisingly, having been honed by millions of years of natural selection, it is rather effective. But we need always to remember that natural selection is, roughly speaking (I shall have more to say about this below), all about leaving as many copies of oneself in future generations as one can. The emphasis is on survival and reproduction not truth (Abrahams & Reiss, 2012).

For example, we hear silences between the words in a conversation whereas the information gathered by a microphone 'listening' to the same conversation shows that

these silences are, objectively, as noisy as are many of the words. The gaps we hear between words are very largely gaps inserted by our minds to render the stream of auditory information more intelligible.

Similarly, our visual system is far more sensitive, to give just one example, to movement than to non-movement. Now the evolutionary advantages of this are clear: a mother needs to be sensitive to changes in the behaviour of her child(ren) and changes are often indicated by movement; hunters need to be alert to the movements of possible prey; and so on. Indeed, we share this hypersensitivity to movement with many other species – the classic work was done on frogs back in the early 1950s (Barlow, 1953). This is an illustration of the fact that it is not only humans that sense only part of the world and emphasise other parts of it, so that we really do construct the world around us; this is a characteristic we share, to varying degrees, with all of life including the first unicellular organism that evolved the ability to detect the presence of certain chemicals in its surroundings and so was able to spend more time in places where there was more food.

The simplest way of summarising all this is to say that the external world is a complex world and even the human mind, in all its richness and complexity, simply has neither the capacity nor the need to obtain a full, detailed map of it. Rather, we have evolved to get through life and leave offspring that have an above average chance of doing the same. Often, truth and evolutionary success go hand in hand – there is little to be gained in under- or over-estimating the nutritional value in different foods, for example. However, even here the fact that today's environment is so different from that in which we spent much of our evolutionary history causes problems. As is well known, most people have a greater liking for saturated fats and for sugars than is good for them. This can cause problems for those of us who now live with a superabundance of foods rich in such ingredients. In the past, of course, there was little to be gained – and much to be risked – in not stuffing ourselves when an occasional glut of such foods presented themselves.

The insufficiency of reason is a strong argument for conducting debates about ethics within well-established ethical frameworks, when this is possible. Traditionally, the ethical frameworks most widely accepted in most cultures arose within systems of religious belief. Consider, for example, the questions 'Is it wrong to lie? If so, why?'. There was a time when the majority of people in many countries would have accepted the answer 'Yes, because scripture forbids it'. Nowadays, though, not everyone accepts scripture(s) as a source of authority. Another problem, is that while the various scriptures of the world's religions have a great deal to say about such issues as theft, killing people and sexual behaviour, they say rather less that can directly be applied to the debates that surround many of today's ethical issues, for example those involving modern biotechnology.

A further issue is that we are more aware nowadays that we live in multicultural or pluralist societies. Within most countries there is no longer a single shared set of moral values. Nevertheless, there is still great value in taking seriously the various traditions – religious and otherwise – that have given rise to ethical conclusions. People do not live their lives in ethical isolation: they grow up within particular moral traditions. Even if we end up departing somewhat from the values we received from our families and those around us as we grew up, none of us derives our moral beliefs from first principles, *ex nihilo*, as it were.

Given, then, the difficulties in relying solely on either reason or any one particular ethical tradition, we are forced to consider the approach of consensus (Moreno, 1995). It is true that consensus does not solve everything. After all, what does one do when consensus cannot be arrived at? Nor can one be certain that consensus always arrives at the right answer – a consensus once existed that women should not have the vote and that beating was good for children.

Nonetheless, there are good reasons both in principle and in practice in searching for consensus. Such a consensus should be based on reason and genuine debate and take into account long-established practices of ethical reasoning. At the same time, it should be open to criticism, refutation and the possibility of change. Finally, consensus should not be equated with majority voting. Consideration needs to be given to the interests of minorities, particularly if they are especially affected by the outcomes, and to those – such as young children, the mentally infirm and non-humans – unable to participate directly in the decision-making process. It also needs to be born in mind that while a consensus may eventually emerge, there is a time when what is more important is simply to engage in valid debate in which the participants respect one another, so far as is possible, and seek for truth through dialogue (cf. Habermas, 1983; Martin, 1999).

I wrote above that there still does not exist a single universally accepted framework within which ethical questions can be decided by reason. The simplest approach to deciding whether an action would be right or wrong is to look at what its consequences would be. No one supposes that we can ignore the consequences of an action before deciding whether or not it is right. The deeper question is whether all that we need to do is to look at consequences. Or is it that there certain actions that are morally required – such as telling the truth – whatever their consequences? Are there other actions – such as betraying confidences – that are wrong whatever their consequences?

Consequentialists hold that consequences alone are sufficient to let one decide the rightness or otherwise of a course of action. As is well known, the most widespread form of consequentialism is known as utilitarianism. Utilitarianism begins with the assumption that most actions lead to pleasure (typically understood, at least for humans, as happiness) and/or displeasure. In a situation in which there are alternative courses of action, the right action is the one that leads to the greatest net increase in pleasure (i.e. excess of pleasure over displeasure, where displeasure means the opposite of pleasure, i.e. harm).

Utilitarianism as a significant movement arose in Britain at the end of the eighteenth century with the work of Jeremy Bentham and J. S. Mill. However, its roots are much earlier. In the fifth century BCE Mo Tzu in China argued that all actions should be evaluated by their fruitfulness and that love should be all-embracing. Nowadays, it exists in various forms (preference utilitarianism, act utilitarianism, rule utilitarianism, etc) but what all utilitarians hold in common is the rejection of the view that certain things are right or wrong in themselves, irrespective of their consequences. Consider, for example, the question as to whether or not we should tell the truth. A utilitarian would not provide an unqualified 'yes' as a universal answer.

There are at least two great strengths of utilitarianism. First, it provides a single ethical framework within which, in principle, any moral question may be answered. It doesn't matter whether we are talking about the legalisation of cannabis, the age of sexual consent or the use of animals for school dissection, a utilitarian perspective exists. Secondly, utilitarianism takes pleasure and happiness seriously. The general public may sometimes suspect that ethics is all about telling people what not to do. Utilitarians proclaim the positive message that people should simply do what maximizes the total amount of pleasure in the world.

However, there are difficulties with utilitarianism as the sole arbiter in ethical decision making. For one thing, there is the question as to how pleasure can be measured. For a start, is it to be equated with well-being, the subjective experience of happiness or the fulfilment of choice? And, anyway, what are its units? How can we compare different types of pleasure, for example sexual and aesthetic? Then, is it always the case that two units of pleasure should outweigh one unit of displeasure? Suppose two people each need a single kidney. Should one person (with two kidneys) be killed so that two may live (each with one kidney)?

Utilitarians claim to provide answers to all such objections (e.g. Singer, 2011). For example, rule-based utilitarianism accepts that the best course of action is often served

by following certain rules – ‘Tell the truth’, for example. Then, a deeper analysis of the kidney example suggests that if society really did allow one person to be killed so that two others could live, many of us might spend so much of our time going around fearful that the sum total of human happiness would be less than if we outlawed such practices.

The major alternative to utilitarianism is a form of ethical thinking in which certain actions are considered right and others wrong in themselves, i.e. intrinsically, regardless of the consequences. Consider, for example, the question as to whether a society should introduce capital punishment. A utilitarian would decide whether or not capital punishment was morally right by attempting to quantify the effects it would have on the society. Large amounts of empirical data would probably need to be collected, comparing societies with capital punishment and those without it with regard to such things as crime rates, the level of fear experienced by people worried about crime and the use to which any money saved by the introduction of capital punishment might be put. On the other hand, someone could argue that regardless of the consequences of introducing capital punishment, it is simply wrong to take a person’s life, whatever the circumstances. Equally, someone could argue that certain crimes, for example first degree murder, should result in the death penalty – that this simply is the right way to punish such a crime.

There are a number of possible intrinsic ethical principles. Perhaps the most widely discussed are those of autonomy and justice. People act autonomously if they are able to make their own informed decisions and then put them into practice. Autonomy is concerned with an individual’s rights; justice is construed more broadly, being principally about fair treatment and the fair distribution of resources or opportunities. Of course, considerable disagreement exists about what precisely counts as fair treatment and a fair distribution of resources. For example, some people accept that an unequal distribution of certain resources (e.g. educational opportunities) may be fair provided

certain other criteria are satisfied (e.g. the educational opportunities are purchased with money legally earned or inherited).

More fundamentally, Kant, in his *Groundwork of the Metaphysics of Morals* (Kant 1785/2012), argued, in the first formulation of his categorical imperative, that we should act only according to that maxim whereby we can, at the same time, will that it should become a universal law. In other words, we should never do those things which favour us merely because we are us. This forbids such actions as theft and telling lies. It is, of course, close to the Golden Rule that we should treat others as we would like to be treated if we were them; we are called to love our neighbours as ourselves.

A rather different approach to the whole issue of ethics is provided by virtue ethics. Instead of starting from particular actions and trying to decide whether they fail to maximise the amount of happiness in the world, are divinely forbidden or infringe someone's rights, virtue ethics focuses on the moral characteristics of good people. For example, what characteristics might we expect a good teacher to manifest? We might want them to know their subject, to treat all students fairly, to be able to maintain order in the classroom, to maximise students' chances of doing well in any examinations, to be able to communicate clearly, to have a sense of humour and so on. Some of these are skills – for example the ability to maintain classroom order – but some are personality traits that we call virtues, notably, treating all students fairly.

Virtue ethics has an ancient pedigree – receiving considerable impetus from Aristotle – and has undergone something of a revival since the 1970s (Kristjánsson, 2015). Part of the reason for this may be connected with a somewhat instrumental tendency in much of the training of such professionals as doctors, nurses, lawyers, accountants and so on, in which the idea of moral goodness features little. And yet many people who have to deal with such professionals (as patients and clients) want them to manifest virtues as well as be knowledgeable and technically skilled. Furthermore, when we look at various abuses in the professions, it is clear that many of these would have been much less

likely to have occurred had those in these professions been disposed to behave virtuously. I will return to virtue ethics below but first, let me introduce a very different approach to understanding what we consider to be morally right and to determining what is morally right.

### **Evolutionary ethics**

My background is in evolutionary biology. One of the great triumphs of the last 150 years has been for us to realise how the theory of natural selection, as first brought into prominence by Charles Darwin and Alfred Russel Wallace, can explain so much of the natural world. We are used to thinking how natural selection can be invoked to understand the morphology of organisms – the wings of a bird, a polar bear’s insulation and a cheetah’s flexible spine. But Darwin realised that natural selection does not apply only to structures, it applies also to behaviours. Birds fly with their wings, polar bears rely on their insulation while hunting and the flexible spine of a cheetah enables it to outrun its prey.

Darwin also realised that the same arguments that apply to the behaviour of non-human animals also apply to humans. His *The Descent of Man, and Selection in Relation to Sex* (Darwin, 1871) and *The Expression of the Emotions in Man and Animals* (Darwin, 1872) explore the ramifications of natural selection for human behaviours and emotions. Even though Darwin knew nothing of the mechanism of inheritance, he realised that natural selection might still be responsible for the evolution of worker sterility in the social insects. At first sight, such sterility deals a crushing blow for the theory of natural selection. Such individuals produce no offspring – so how can this be functional?

Darwin argued that sterility in such circumstances might evolve by a process he termed ‘family selection’, nowadays generally known as ‘kin selection’. He pointed out that “breeders of cattle wish the flesh and fat to be well marbled together; the animal has

been slaughtered, but the breeder goes with confidence to the same family” (Darwin 1859, p. 358). In other words, both artificial and natural selection do not have to rely on individuals having their own offspring; individuals can reproduce vicariously, as it were, via their close relatives. This can allow altruism – even extreme altruism in which individuals do not reproduce – to evolve and perpetuate.

Darwin’s insights lay dormant for a century until a PhD student called William D. Hamilton produced a more general, mathematical theory that encapsulated his insights about the origins of altruism. Advances came thick and fast and the 1960s and ’70s saw an explosion in field work and in theoretical modelling in the disciplines that came to be known as behavioural ecology and sociobiology. As is often the case when new disciplines arise, we can see with hindsight that those working in the field sometimes overstretched themselves and the work of Richard Dawkins, E. O. Wilson and others, particularly when extrapolations were made to human behaviour, had to be tempered by the work of Stephen Jay Gould, Richard Lewontin, Steven Rose and others. Furthermore, there are still areas of disagreement – notoriously with regards to the level at which selection operates, namely whether selection at the level of genes and individuals is all that needs be considered or whether selection operating between groups of individuals results in phenomena that cannot be explained solely by selection at lower levels (Sober & Wilson, 1998; Nowak & Coakley, 2013). Nevertheless, advances were made and a new sub-discipline arose: ‘evolutionary ethics’ (Maienschein & Ruse, 1999; Hauser, 2006; de Waal et al., 2014; Ruse & Richards, 2017).

Evolutionary ethics has proved to be extremely controversial. Let me begin by clarifying that what science does is to attempt to explain why the world is as it is – what is there and how it operates; separately, we can then consider whether the world is as we wish it to be and, if it isn’t, what we might do about it. Considering evolutionary ethics as a science results in lots of interesting findings – ones that ‘make sense’. I have already briefly referred to Darwin’s insights into the explanation for worker sterility in the social insects. Subsequent gains in knowledge sometimes complicate matters (for instance,

the predictions depend on the extent to which queen bees, ants and wasps mate with just one male or with more than one) and there have been new theoretical developments (for example, in games theory where an individual's best strategy depends on what other individuals do). Nevertheless, in most species most behaviour falls into one of three categories:

- *It favours the individual concerned (individual selfishness)*. Consider individuals feeding by themselves – they simply forage so as to maximise their intake of energy and limiting nutrients while attempting to minimise their exposure to predation, inclement weather or other hazards.
- *It favours close relatives (kin selection)*. Strictly speaking, most biologists see any instance of parental investment in offspring as falling into this category but more dramatic examples are afforded by cases, such as in the social insects and naked mole rats, where individuals help others to reproduce at their own expense.
- *It favours unrelated individuals who subsequently reciprocate (reciprocal altruism)*. To give a classic example, vampire bats (*Desmodus rotundus*) are colonial mammals. During the day, they roost together, often in hollow trees. At night they feed on the blood of domestic animals, such as cattle, horse, goats and pigs. If an individual fails to find a meal on two successive nights, it is in deep trouble: Wilkinson (1984) found that after about 50-60 hours without blood, a vampire bat starves to death. At his study sites, Wilkinson found that fully 18% of individuals failed to obtain a meal on any one night. What Wilkinson also found was that a bat that had failed to obtain a meal was usually provided with regurgitated blood by a roostmate that had successfully fed the previous night. Often, such altruism was provided by a mother for her offspring. However, on a number of occasions, the bat receiving regurgitated food was either unrelated or only distantly related to the bat providing the food. Furthermore, it looked as though individuals remembered from which individuals they had received blood and subsequently reciprocated to these individuals.

There are examples of behaviour that fall outside these three categories. For example, consider 'meiotic drive'. From the middle of the twentieth century, examples have been known from a range of species where one or more of the genes in a genome manipulate the process of meiotic cell division so that the genes in question are over-represented in the next generation. At first considered an evolutionary oddity, such behaviour is best understood by Richard Dawkins' selfish gene view of life (Dawkins, 1976). The essence of this view is that to understand organisms we should pay attention to the interests of the genetic material that contributes to their structures and behaviours. Often, we can pretty much understand what is going on by focusing only on the phenotypes of organisms – that is, their appearances. Phenomena like meiotic drive remind us that we need to understand matters from the perspective of organisms' genetic material too.

Back to animal behaviour: individual selfishness, kin selection and reciprocal altruism do indeed 'make sense'. And to an evolutionary biologist so too does the everyday finding that the great majority of people are more concerned about the welfare of close relatives, reproductive partners or those with whom they regularly interact (enabling reciprocal altruism) than they are about the welfare of others.

We see the non-human equivalent of this when we watch nature programmes. Individual non-human animals often treat other individuals in the same species very differently depending on whether they are group members or not. I therefore belong to the camp that sees such unwanted human behaviours as xenophobia and, more generally, selfishness as having their origins in our biology – but I emphasise 'origins'. Non-humans are not xenophobic in the way that humans can be and undesirable human traits such as racism and sexism, while they are not entirely unconnected to related behaviours in non-humans, cannot simply be reduced to them. To give one specific example, there was a furore when evolutionary biologist Randy Thornhill and anthropologist Craig Palmer co-authored *A Natural History of Rape* (Thornhill & Palmer,

2000), arguing, in part from analogous behaviours in a number of non-human species, that rape arises for evolutionary reasons and contradicting the argument that rape is not sexually motivated. Their book received mixed reviews – and some of the most negative ones came from male evolutionary biologists. For instance, the primatologist Frans de Waal started by stating that “Rape is sexual violence. There is no doubt in my mind that people who try to reduce rape to either sex or violence miss its complexity” (de Waal, 2000). He went on to make a number of specific criticisms – for instance that about one-third of rapes are of women too young or too old to bear children.

Now, humans share much of our biology with our close evolutionary relatives but two points need to be made. First, when we observe the behaviours of our closest evolutionary relatives – the various species of great ape – we find considerable variability between them with regards to such things as preferred group size, sexual behaviour and feeding behaviour. It is clear that behaviours can change substantially over relatively short periods of evolutionary time. Secondly, and more fundamentally, although it is always risky to attempt to identify the ways in which humans are unique (there are large literatures on the extent to which tool use, language and intelligence are defining human characteristics), it is clear that one of the notable features of our species is the extent to which we can choose how to behave.

The importance of human rationality in our ethical thinking was made with particular clarity by the moral philosopher Peter Singer in his book *The Expanding Circle* (Singer, 1981). What Singer did was to argue that altruism began as a drive to protect one’s kin and those in one’s community but has developed over time into a consciously chosen ethic with an expanding circle of moral concern. In other words, what begins as pure evolutionary biology develops into something more than that. I think this is absolutely correct and much the same thing happens with many other areas of human thought and endeavour. There are probably biological explanations for the origins of music, dance, language, religion and mathematics, but one needs more than biology to

understand the Brandenburg Concertos, *The Rite of Spring*, *Ulysses*, the doctrine of the Trinity and the proof of Fermat's Last Theorem.

A common worry about evolutionary ethics is that other species have very different rules from us as to what is appropriate behaviour. As is so often the case, Darwin got early on to the essence of the issue:

I do not wish to maintain that any strictly social animal, if its intellectual faculties were to become as active and as highly developed as in man, would acquire exactly the same moral sense as ours. In the same manner as various animals have some sense of beauty, though they admire widely-different objects, so they might have a sense of right and wrong, though led by it to follow widely different lines of conduct. If, for instance, to take an extreme case, men were reared under precisely the same conditions as hive-bees, there can hardly be a doubt that our unmarried females would, like the worker-bees, think it a sacred duty to kill their brothers, and mothers would strive to kill their fertile daughters; and no one would think of interfering.

(Darwin, 1871, p. 67)

To this we can respond that if honey bees evolved the same cognitive capacities that we have, they might actually come to question whether some of their ancestral practices should persist. After all, humans have (on an optimistic reading) made considerable progress with regards to prohibiting slavery and, in many countries, to reducing sexism and treating children as having certain rights; so too, we could envisage campaigns among honey bees against the slaughter of conspecifics (cf. FitzPatrick, 2017).

## Religion

So, what is the place of religion in ethics? I have argued that our capacity for ethical reasoning had its roots in our biological nature but was then hijacked, though a sort of bootstrapping – ‘cranes’ in Daniel Dennett’s (1995) terminology – as the human mind became increasingly powerful and sought for internal consistency in its reasoning. The result is that humans (some of them, at least) increasingly became convinced by the validity of what John Rawls (1971) would later express as decision-making behind a ‘veil of ignorance’ – namely that we should make ethical decisions as if we did not know our own position (back to Kant’s categorical imperative). So, for example, laws about gender should be made by individuals genuinely setting aside whether they themselves are male, female or other; laws about immigration should be made without the presumption that one is or is not a migrant, and so on.

At first sight, it might be thought that this growth in human understanding about ethics doesn't fit very well with insights from religion aside from generic religious injunctions to do as one would be done by. After all, most religions are rather ancient and contain something of a mish-mash of ethical injunctions and stories of the good in action. However, both for the believer and for the unbeliever, there are a number of reasons why I think religions have a major role to play in how we should behave.

The first is because religions manifest themselves in communities. I mentioned above that none of derives our moral beliefs *ex nihilo*. If one is, for example, a Buddhist (of whatever persuasion), one is likely, along with other Buddhists, to have, or at least believe one should have, a particular commitment to non-violence, to eschew craving and to demonstrate compassion. The internalisation and manifestation of this way of being is helped by the presence of others who share one’s beliefs. It is not a coincidence that the term ethics derives from *ethos*, i.e. custom or habit; we mostly exercise our behaviours in the presence of others with comparable values, and religions promulgate ethical values that are good for communities not just for individuals.

A second reason is because the world's major religions have developed over long periods of time and have therefore gone through processes of refinement (for all that they often begin with one or more acts of revelation) that share some similarities with the testing and sifting of natural selection. In other words, we have reasons to place considerable trust in long-standing institutions that genuinely seek to do good. This, of course, is one reason why more recent humanist / secular organisations often come up with principles that, as far as ethics are concerned, have considerable similarities with those of religion. When I read, for instance, books on humanism by Richard Norman (Norman, 2004) or Andrew Copson (Copson, 2018), there is much about ethics with which I find myself in agreement.

Religions, though, do have one major difference from humanist and secular approaches to ethics and that is that religious adherents generally attach more weight to religious teachings than agnostics and atheists do to secular teachings. This, of course, can be a problem. It can mean that religious believers become convinced of a particular reading of their scriptures or the sayings / teachings of their leaders. To make an obvious point – much injustice on women has been meted out in the name of religions because of this. More generally, as Mary Warnock puts it:

The danger of religion, any religion, lies in its claim to absolute immutable moral knowledge which, if justified, would indeed give its adherents a special place in instructing others how to behave, perhaps even a right to do so.

(Warnock 2010, p. 165)

However, religions develop in their teachings and also have the capacity to lift us up, to help us do good and to become new people in ways that on our own we could not manage; they can help us to turn over a new leaf, to start afresh, to be born again. This is the case whether one believes in a transcendental God or not. As Esther Reed puts in when writing about Christian ethics:

Christian living flows from belief in Christ, participation in the life of the church, the sacraments, prayer and fellowship. It concerns learning to live according to the 'mind of Christ' (Phil. 2:5) and as 'the body of Christ' (1 Cor. 12:27; Eph. 4:12; Col. 1:18), and involves the articulation and application of Christian belief and doctrine in specific situations.

(Reed, 2000, pp. ix-x)

For Christians, there are a range of ways of understanding how to use scripture, the teachings of the Church and reason to determine what is ethical (Fletcher, 1966; Jones, 1984; Cupitt, 1988; Parson, 1996; Gill, 1999; Ward, 2013). Whichever approach is used, the accounts of the life and teaching of Jesus are at least important, for many they are determinative. Whether one goes by Thomas à Kempis' *The Imitation of Christ* or more contemporary, though often derided, bumper stickers or bracelets proclaiming 'WWJD' (What Would Jesus Do?), the notion that the goal of the Christian life is to be conformed to the image of God's Son has scriptural warrant (Rom. 8:29).

This can be seen as a form of virtue ethics; that, however, much one fails, the Christian is called to model their life on that of Jesus of Nazareth, the risen Christ. Like any virtue ethics, there is the worry that right behaviour and action only makes sense within the confines of a particular time and place (MacIntyre, 1981). But basing one's ethics on the one whom Christians see as both the author of the universe and the subject of the New Testament has advantages not just, of course, for Christians but for others too. When we consider the problems that arise from human selfishness and other moral failings, there is much in the person and teachings of Jesus and subsequent Christian theology, beginning in the New Testament itself, that can lead to healing and wholeness, for individuals, for communities and for the whole of creation.

## Response to the Boyle Lecture delivered by Michael Reiss

Janet Soskice

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What is the relation of science, religion and ethics? How do we decide what is 'morally right' and 'morally wrong', and how might science, and especially evolutionary biology, contribute to our joint decision-making in an age and society which apparently lacks moral consensus? These are the themes of Michael Reiss's *Boyle Lecture*, and they are pertinent. If not pure science *per se*, then technological developments based on advancing scientific understanding present us with moral choices at dizzying speed. Twenty years ago the debating space was occupied by new reproductive technology, now it is the advance of digital technology, social media and surveillance equipment that presents us, individually and collectively, with ethical quandaries for which there is no 'off the shelf' answer. Should we allow the police and security forces to collate information from speed and surveillance cameras to 'predict' where criminal threat might lie? Should we collect the genetic information of the entire populace to benefit research and the health service? How do science and religion, respectively, help us to address these questions?

Professor Reiss suggests that for much of human history the teachings of religion were either the sole or the principal means by which people decided what was right or wrong. Traditional ethical frameworks arose within systems of religious belief and there

was a time, he says, when if asked, 'is it wrong to lie', the 'majority of people in many countries would have said 'yes, because Scripture forbids it'. This reliance on religion (and here it seems to be western Protestant Christianity he has in mind) has been displaced or challenged, he goes on to say, in the modern period by the development in the 19<sup>th</sup> century of moral philosophy and the 'rapid growth of evolutionary biology with an enthusiastic presumption that biology was the source of ethics'.

I wonder if this is so? I think Professor Reiss has both overestimated the extent to which scripture-based religions derived their ethical frameworks from scriptural admonition, and underestimated the historical autonomy of ethical deliberation. In the Christian west, ethics has long been known to be separable from religion, at least from the kind of religion that turns to scriptures for ready-made answers. Aristotle's *Nicomachean Ethics* ante-dates Kant's *Groundwork for the Metaphysics of Morals* by well over two thousand years and was known to the medieval church and subsequently influential on all western political and moral thought. Aristotle, like other antique moralists, is concerned with how to live the good life. The gods are only incidentally invoked, and not as givers of positive moral commands. Although the term 'ethics' as we use it is of relatively modern provenance, wherever women and men have argued about the good, the social and the political life they have been 'doing' ethics.

Christianity, when it grounded the moral consensus of the country in which we live, provided far more than a set of biblical prohibitions, a 'mish mash of ethical injunctions' and some edifying tales, but something much more like a moral compass – a broad network of convictions about the good life based on the teachings of the Bible, the life of Christ and above all the belief in a Creator God who was good and loving and called human beings to be likewise. The directives were followed not simply to avoid punishment, but to be the kind of creatures human beings were meant to be, in the image of God and oriented to the utmost Good, which is God.

I agree with Michael on this point: ethics has its origins in biology. However, how we might parse this, or rather how I might parse this by contrast with some of the enthusiasts for evolutionary biology as a source of ethics, is another matter.

Ethics is 'biological' in the profoundly basic sense that it depends on what we are as human animals. For instance, if it took three human sexes to reproduce instead of two, then teaching on matrimony would involve three people. If we didn't need oxygen to survive, there would be no harm in holding someone's head under water for ten minutes in jest. Ethical behaviour, the human ethos, is based on what Wittgenstein called 'forms of life'. That is why ethics has both universal and particular instances. Some mothers, teaching their children to behave at dinner, encourage them to pass the salt and pepper. Mothers in societies whose food is offered in big communal bowls and eaten with the hands offer different directives. That's particular. More general, or universal, are understandings that to hold someone's head under water is, universally, to kill them, and generally frowned upon. Ethics goes all the way down and does not just concern contentious matters like perjury and theft but has its anchorage in the everyday – how do you greet people, thank them, accept a gift. We can see that for ancient Israelites, dietary regulations were ethical and practical, as well as divinely prescribed.

Ethics is a way of life and any organized society has ethics. It is worth remembering that an early name for the Christian movement was 'the way'. As such, as Pierre Hadot has argued with memorable brilliance in *Philosophy as a Way of Life*, in late antiquity the Christian 'way' stood amongst a number of 'ways' known to those who wished to pursue a virtuous life – the way of the Stoics, and the Epicureans and so on.<sup>1</sup> These philosophical schools aimed at the 'good life' and, for the leisured men (they were mostly men) who had time for it, the study of metaphysics, logic, mathematics and ethics all lead to an ordered, or good life.

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<sup>1</sup> Hadot, Pierre, *Philosophy as a Way of Life* (Oxford: Blackwell, 1995).

The Greek city states had complicated and sophisticated ethical systems. Christianity, emerging in the Greco-Roman world, took for granted that all men and women naturally seek the good and married this with the more distinctively Jewish and Christian conviction that this was to seek God, the source of all good things and of our well-being.

Thus, in the *Divine Comedy* Dante can make the pagan poet, Virgil, his guide because Virgil is a good and just man. Dante believes, as did apparently St. Paul, that it should be evident to all that the world is made for and guided to the Good, and that all right ordered things, indeed all life, moves towards this end. Dante has smuggled some Christian assumptions in Virgil's view, notably the identification of the Good with God, and indeed with a creator God who both made all that is (*creatio ex nihilo*) and declared it to be good. Nonetheless for millennia the basic understanding in the Christian west was that a rightly ordered life was good, not just in terms of calculated outcomes, but because it reflected the order of the cosmos itself, the work of a Good Creator.

What dissolved this? Kant was writing at a time when metaphysics was at a low ebb, and atheism and agnosticism, though Kant was neither, becoming socially acceptable. The various moral philosophies of the 18<sup>th</sup> and 19<sup>th</sup> century which Michael discusses (utilitarianism, consequentialism) were laudable attempts to find a universal grounding for morals.

Laudable, if perhaps unsuccessful because ethics, once seen to be grounded in the very order of the cosmos (and this was true not just of Christian ethics but of many faith and philosophical traditions) was now a matter rational calculus – a balancing of outcomes and effects. Might it be precisely this which made evolutionary biology so attractive to some as a possible source of ethical norms? Here once again moral judgements might be grounded in the given – the given being our biological natures?

Evolutionary ethics thus, as Professor Reiss suggests, 'makes sense' – but only to a point. The difficulty, as he more or less admits, lies in the jump between a scientific account of 'why the world is as it is - what is there and how it operates', and *how we would wish it to be*, that is between the factual, insofar as we can reach it, and the evaluative.<sup>2</sup> Evolutionary biology, however successful, can only provide an account of what is the case, but it has proven fairly fragile in determining what ought to be the case, as the 20<sup>th</sup> century's disastrous experiments in eugenics demonstrate. As Michael says, there may be biological explanations of music and dance, but people make music and dance because they enjoy doing these things. Evolutionary ethics has some points to make about what's good for the species but is less forthcoming on what is good for the individual.

Michael suggests there was a time when if asked, 'is it wrong to lie', the 'majority of people in many countries would have said 'yes, because Scripture forbids it'. I would argue that, even within Christianity, this kind of propositional ethics is and always has been rare, not least because it's so limited. What kind of moral directive does the New Testament give us on the surveillance use of drones, or for that matter banking and money lending? Not one dictum we can pick out and paste in at any rate. More common than we imagine in the history of religious ethics, and any parent knows this, is some form of 'virtue ethics', which is not about this or that prohibition but a trained direction of the heart and will.

The moral person is not someone who, every time entering a shop, has to debate with themselves in Kantian mode – 'Shall I steal something or shan't I?' but rather someone for whom this thought would not occur. Traditional ethical systems, of all sorts, relied on moral formation. Classically lying was considered wrong not simply because it was against scriptural teaching but because it hurt other people and, with roots going back to Plato at least, it damaged the one lying themselves. Virtue ethics, with its concern for the formation of whole and just individuals, is a far better way of addressing challenges

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<sup>2</sup> This is Thomas Nagel's argument in *The Last Word* (N.Y.: Oxford University Press, 1997).

of contemporary science and technology which find no easy answer from Scriptural proof-texting.

Although much can be said of the difference in ethical systems, it is easy to overlook an overwhelming amount of consensus – children should be loved, parties in transactions should be honest. The wheels of life and commerce won't turn without such basics.

What perhaps has been lost in modernity, or maybe in modern Britain, is any sense of a metaphysical anchorage for these. I don't mean anything complex, but simply that there is an order to the Universe, and a good life is ordered to this. Kant and other enlightenment thinkers, having rejected metaphysics, sought to establish everything, including ethical schemes, on pure reason, with limited success. A return to a biological grounding is arguably a good way forward, not least because it allows within our moral framework some way of thinking of our obligations to the rest of the 'created' order.

Here I have smuggled in a Christian term – 'created' - because from the Christian (or Jewish or Muslim) view we are animals, certainly, with certainly biological needs and dispositions, but over and above this we are *creatures*. As creatures we understand our being and that of the entire cosmos as integrated order, as gift. Christians cannot avoid being at least minimally metaphysical, insofar as we believe in a Creator God and that all things, including space and time, have their being from this divine Creator.

Here we must avoid the trap of 'creationism', a fairly modern notion. The classical Jewish, Christian and Muslim teaching on *creatio ex nihilo* is not concerned with seven days and the hand-fashioning of mammals, but with the belief that *all that is*, including space and time, is from God and has its being, at every moment, from God. The 'moment' of creation is no further away than the now. Science cannot prove or disprove this theory, any more than Christian philosophy can demonstrate it.<sup>3</sup>

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<sup>3</sup> Here we see some quite distinct difference from the crude theology of some science popularizers. I don't say their science is crude, but their theology often is! For instance, Brian Cox, in a television

Thomas Aquinas states the end of the human being is *salus*, often translated as 'salvation' but the Latin suggests health, well-being, human flourishing. This is the end for which we were created and it should inform this life as well as lead us into the next. Thomas's imaginative integration of Aristotelian thought introduced a biological grounding to Christian moral theology that we may well want to emulate in our own manner today. It remains to be seen if a modern-day Aquinas could marry evolutionary biology with the metaphysics of gift.

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sequence visiting a Hindu temple, delights to find the novices say that the world was made long before the gods and goddesses. 'At last' said Cox, 'a truly scientific religion!' Why is this any more 'scientific' than *creatio ex nihilo*? This is to assert, without support, materialism as an obvious scientific truth, whereas it is, as is theism, a metaphysical conviction.

## Previous Boyle Lectures

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2005 Simon Conway Morris

*Darwin's Compass: How Evolution Discovers the Song of Creation*

2006 Philip Clayton

*From Complexity to Anthropology to Theology*

2007 John D Barrow

*Cosmology of Ultimate Concern*

2008 Malcolm Jeeves

*Psychologising and Neurologising about Religion: Facts, Fallacies and the Future*

2009 Keith Ward

*Misusing Darwin: The Materialist Conspiracy in Evolutionary Biology*

2010 John Hedley Brooke

*The Legacy of Robert Boyle – Then and Now*

- 2011 Jürgen Moltmann  
*Is the world unfinished? On interactions between science and theology in the concepts of nature, time and the future*
- 2012 Celia Deane-Drummond  
*Christ and Evolution: A Drama of Wisdom?*
- 2013 John Polkinghorne  
*Science and Religion in Dialogue*
- 2014 Alister McGrath  
*New Atheism - New Apologetics: The Use of Science in Recent Christian Apologetic Writings*
- 2015 Russell Re Manning  
*Natural Theology Revisited (Again)*
- 2016 Sarah Coakley  
*Natural Theology in a Changed Key? Evolution, Cooperation and the God Question*
- 2017 Robert J. Russell  
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- 2018 Mark Harris  
*Apocalypses Now: Modern Science and Biblical Miracles*

