An Eden Project 1

The Tree of the Knowledge of Good and Evil

Starting from the story of the 'fatal tree', Anthony Freeman discusses the origin of moral consciousness.

And the LORD God planted a garden eastward in Eden … the tree of life also in the midst of the garden, and the tree of knowledge of good and evil. (Gen 2:8–9)

It is easy to dismiss the Eden story as mere myth. It is less easy to dismiss the central question it poses: from where do we get our knowledge of good and evil? And it is much less easy again to answer that question.

The biblical narrative portrays the awakening of human moral consciousness as a fall from an initial state of grace. The tale of restoration that ensues is the subject of the second article in this two-part project. In this first part we follow an alternative but no less puzzling story that is based broadly on the principles of Darwinian evolution. The puzzle can be distilled into a single question: how has the mechanism of natural selection, associated with slogans such as 'survival of the fittest' and 'the selfish gene', given rise to a moral sensibility that highly rates qualities like self-sacrifice, generosity, and care for the helpless?

Before embarking on an answer to that puzzle, a word is needed on the status and character of good and evil. The SOF movement is committed to exploring and promoting **religion** as a human creation. Does this also require us to treat **morality** as a human creation? Is the distinction between good and evil something already existing 'out there', for humankind to discover, or is it something we have created for ourselves? And when we designate a particular act or event or situation as either good or bad, are we acknowledging the inherent character of the thing, or do we ourselves make it good or bad by declaring it to be so? From my own study of the origin and exercise of moral consciousness, I conclude that good and evil are neither inherent characteristics nor arbitrary designations, but rational assessments that are objectively grounded while depending upon the context of the moral judgement being made.

The Unselfish Gene?

To return to Darwinian evolution. Consider a situation where there is a shortage of food and some animals in a given population are bound to die of starvation. Those individuals with a trait that favours slightly more efficient eating (bigger mouths, say) are more likely to survive and have children. That trait will be passed on to their offspring, who will form the majority of the next generation, meaning that bigger mouths will be found in a higher proportion of the second generation than the first. After a time the smaller mouthed branch of the family will die out: big mouths will have been 'naturally selected'. Now imagine another group in a similar situation, where part of the population is characterised by a tendency to hold back and let others feed first. By analogy with the first case, we can assume that on average these altruistic individuals will be more likely to starve, less likely to have children, and therefore the proportion of animals bearing this trait will be smaller in next generation than in the previous one. Eventually the increasingly smaller proportion will die out altogether and the altruistic tendency will have been naturally deselected. That is Darwinism in action. So how have moral traits such as self-sacrifice and putting others first not only survived but come to be valued?

A number of theories have been put forward. Suppose, for instance, that in the second case just considered, the altruistic individuals do not hold back for just any member of their group, but only for their own children. This changes the calculations. Previously we assumed that lessening the chances of survival for

the individual would lead to fewer of their genes surviving into the next generation; but holding back in favour of their own offspring will have the opposite effect: the altruistic parents are now increasing the chances of survival for their own children. If this pattern is repeated in succeeding generations, we shall have a situation where the proportion of altruistic parents in the population will increase and the 'unselfish gene' will have been naturally selected. There is evidence that this kind of behaviour does in fact take place. It has been observed among both humans and some non-human animals that individuals are more likely to sacrifice themselves for their children or other close relatives than for the population in general. So here is a way, despite the apparent selfishness built into evolution, that a kin-related altruism could be the result of the 'blind' mechanism of natural selection.

The idea that self-denial by an individual, although negative for that individual, can have a positive outcome for the group, is not new. It is known as the principle of 'group selection', and as a possible evolutionary explanation for altruism it goes back to Darwin himself. He gave the example of a stinger bee, who inevitably dies in the act of stinging an intruder to the hive, but whose self-sacrifice saves the life of the queen and whole community. In its original form this theory assumed that individuals spread the benefits of their selfless behaviour randomly, and researchers showed that on this basis natural selection would not work to increase the tendency to unselfish behaviour. But as we have seen, when selective altruism is exercised in favour of one's offspring or other close kin, the situation changes, and the evolution of such a trait does fit in with Darwinian principles.

To recap, individual self-denial can, in some circumstances at least, be wholly explained as adaptive behaviour in the Darwinian sense. That is to say, having first arisen as a chance characteristic of one or more individual animals, it has become a dominant trait, established by the blind mechanism of natural selection alone, without anyone intending it or planning it. This is an important conclusion, because it shows that evolution can be mechanistic and deterministic and at the same time result in something unexpected. Of course, what we call an altruistic act, even when repeated across a population, does not of itself constitute moral awareness. However, the natural emergence of such a seemingly unlikely characteristic makes it possible – and even likely – that the knowledge of good and evil also has a natural explanation.

From Altruism to Morality

Another approach to the origin of self-denying behaviour in evolutionary terms, which also turns on the relationship between the individual and the group, looks at patterns of behaviour among social animals. Research on apes, for example, has found that sharing resources and resolving conflict appear to result from individuals exercising empathy and sympathy for each other. Moreover, these one-to-one relations can sometimes spread into community-wide concern. Such behaviour patterns may not make non-human primates into moral beings, but they do exhibit a sense of social regularity that is mutually beneficial. This could well be a biologically-grounded stepping stone to the moral norms developed among humans.

These ideas are scorned by evolutionary biologists like Richard Dawkins, who warned in *The Selfish Gene* that, 'if you wish, as I do, to build a society in which individuals co-operate generously and unselfishly towards a common good, you can expect little help from biological nature'. Yet primatologist Frans de Waal and others have offered detailed evidence for biologically grounded 'protomoral' behaviour in non-human species. And philosopher Mary Midgley, writing about the origin of ethics, sees the universality of ethics across all human cultures as evidence for its biological origin. In her opinion, even though they are not moral in our sense, these animals do demonstrate 'a willingness and a capacity to look for shared solutions' that provide the building blocks of human morality.

SOF members are familiar with the emphasis laid by Don Cupitt upon the role of language in the human creation of religion, and cultural anthropologist Christopher Boehm is among many who see language as a key also in the transition from the protomoral behaviours of non-human primates to full blown moral communities of humans. This trail was signposted by Darwin himself, who supposed that at the later stages of the evolution of morality, culture and learning (which must include language) takes over the major role from biological natural selection. But what triggered the crucial step to conscious moral awareness among early humans?

Boehm's study of both non-human and human hunter-gatherer communities has led him to speculate that the 'evolutionary Original Sin', as he calls it, was bullying. Once this had been identified as deviant behaviour, ethics developed in tandem with politics to cope with it.

The argument runs as follows. Hunter-gatherer societies are known to be egalitarian, and this makes sense because large beasts require co-operation in the hunt and a willingness to share equably the resultant meat. But individual primates (both human and ape) exhibit a desire to dominate, so an egalitarian society could only develop if the majority acted in concert to stamp out the despotic behaviour of the inevitable

bullies who would emerge and otherwise dominate them – the so-called alpha-males. Such co-operation was driven by the dislike of being dominated, which in all primates matches their desire to dominate others. This co-operation was able, in the case of early humans, to develop into a moral and political system, because of the biological development of the large brain that had already taken place and made possible the beginnings of language.

This sketch of the evolutionary origins of morality – of the knowledge of good and evil – has brought us to a concept of morality as a means of social control, closely linked with politics. The individual's inherent selfishness and desire to dominate is tempered by the realisation that the good of one member is tied up with the good of the whole community, including oneself. But within this continuing focus on self-interest, the shift from individual selfishness to 'group selfishness' does open up a new perspective on other individuals in the group.

'the evolutionary Original Sin was bullying'

First comes the move from seeing others only as my competitors to seeing them as agents whose welfare is bound up with mine. In this situation, working for another's good is encompassed within working for my own good, especially when the 'other' is my child or other close kin. But once the idea of working for another's good gets a foothold, the possibility arises of treating it as an end in itself, and not merely a means to serve my own selfish ends. This development has been explored by philosopher Elliott Sober and evolutionary biologist David Sloan Wilson, who were also the ones who rehabilitated the theory of group selection, when they argued that putting the good of one's offspring before one's own could be adaptive behaviour resulting from biological natural selection.

That first stage, which developed in pre-human animals, they called 'evolutionary altruism'. Their extension of the principle to conscious human behaviour they term 'psychological altruism', the existence of which is also supported by an evolutionary argument that focuses on parents and their offspring. The upshot is that neither of these forms of altruism is itself the same as morality, because they lack the crucial move of translating a concern for the welfare of specific others into generally applicable ethical principles. Sober and Wilson conclude that behaviour driven solely by selfish motives and the desire for one's own pleasure (as proposed by the more widely held theory of psychological egoism) has given way, in the process of evolution, to a naturally selected plurality of human motivations that balances one's own good with that of others as ultimate ends in themselves. Thus the stage is set for full-blown morality.

The Knowledge of Good and Evil

Whatever the mechanisms – biological, cultural or spiritual – by which moral awareness first developed in humans, its application depends upon our discernment of good and evil in particular cases. The evolutionary path discussed so far suggests that at least some choices that we regard as ethically positive (such as the selfless nurturing of our children) are biologically based, and therefore the classifying of them as 'good' is not an arbitrary designation. It is founded on the way things actually are, in the natural world as studied by science. But accepting that the designation is not arbitrary does not commit us to the opposite extreme of asserting that goodness is an absolute quality, inherently and permanently belonging to the action in question.

Here is the reason. In Darwinian evolution a key concept is 'fit' or 'fitness'. This is a family of words that needs always to be used in relation to two or more things. It makes no sense to say that something is 'fit' without also saying what it is fit for, or what it fits with. A particular key fits a particular lock; in relation to any other lock it does not fit. Even physical fitness, often (wrongly) used as an absolute term, requires a context: the kind of fitness required for my desk job and that needed by a professional sportsman are two very different things (luckily for me!). So when we say that something is 'good' in the context of evolution, we mean that it fits the survival requirements of the organism in question. This is certainly not an arbitrary claim, but neither is it absolute. Species become extinct precisely when their environment changes and they fail to change with it, because an adaptive characteristic that in one context was good (fitted), proves to be bad (unfitting) in a new one.

I have long believed, on the basis of simple observation, that all moral judgments are context-dependent, and that moral absolutists are mistaken when they oppose 'relativism' in this sense; but in most cases what they are actually condemning is arbitrariness in ethics (which they wrongly regard as the only alternative to absolutism). An evolutionary approach to morality, such as I have indicated here, offers a way clear of the sterile debate between relativists and absolutists. Because it is grounded in biology, it is genuinely objective; and because it concerns always a specific context, its judgements may change in changed situations. This would seem to safeguard the key insights, and meet the chief anxieties, of both sides.

An Eden Project 2

The Tree of Life

In Part 2 of his Eden Project Anthony Freeman looks at how the Passion Narrative in St John's Gospel picks up and 'reverses' the theme of the Tree in the Garden of Eden.

Now in the place where he was crucified there was a garden ...
(Jn 19:41)

The Christian Bible opens with the tree of Life growing in the midst of the garden of Eden (Gen 2) and closes with tree of Life growing in the midst of the river in the new Jerusalem (Rev). So you might expect that in the sixty-four books in between there would be regular references to this tree of life; but you would be wrong. The term nowhere appears except in Genesis and Revelation. Indeed, given the subsequent shadow they have thrown over Christian theology, it is noteworthy how seldom the themes of the tree, the garden of Eden, and even of Adam and Eve, occur in the Bible.

After two occurrences at the beginning of Genesis, Eve is never mentioned again in the Old Testament and Adam gets just three passing references. Outside the Pauline writings, Adam appears only twice in the New Testament (both in genealogical contexts) and Eve never. Even when we include Paul, Adam comes into just three passages (Rom 5; I Cor 15; I Timothy 2) and Eve two (II Cor 11; I Tim 2). These are pretty meagre pickings, and they are not much improved if we add the garden of Eden to the items searched: just three of the prophets refer to it in a proverbial way, but there no other mentions in either the Old or New Testaments.

This is all a salutary reminder of how slender is the biblical basis of much Christian theology (even the Protestant 'Bible-based' variety). However, in what follows I hope to show how one New Testament writer – St John – does in a subtle way provide the groundwork for the mediaeval idea that the cross of Jesus can be seen as a tree whose role in redemption mirrors and reverses that played in the fall by the earlier tree in Eden. The idea received classic expression in the sixth-century Latin hymn *Pange lingua*. The refrain establishes the metaphor in which the cross is the tree and Jesus the precious fruit that it bears:

Faithful Cross! above all other,
one and only noble Tree!
None in foliage, none in blossom,
none in fruit thy peers may be;
sweetest wood and sweetest iron!
Sweetest Weight is hung on thee!

The verses then draw the parallel between the forbidden tree that brought death and the chosen tree that will bring life, as here:

God in pity saw man fallen,
shamed and sunk in misery,
when he fell on death by tasting
fruit of the forbidden tree:
then another tree was chosen
which the world from death should free.

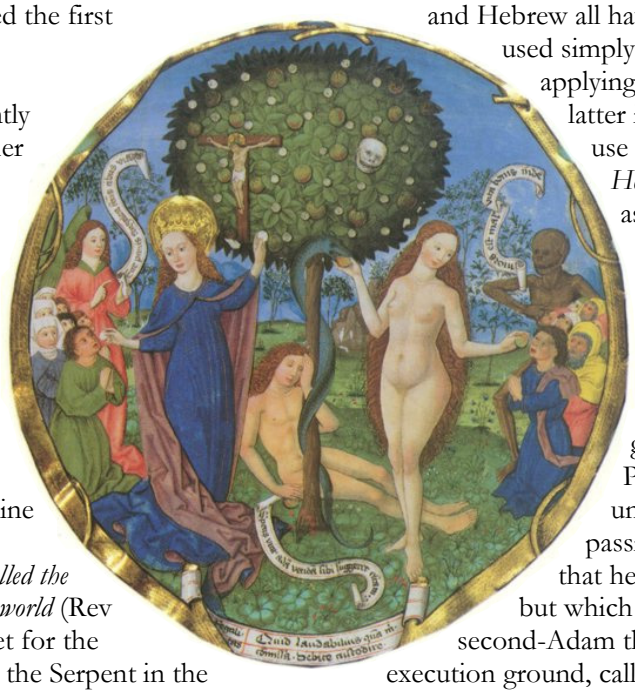
The parallelism is complicated by the fact that in the midst of the garden in Genesis there was not **one** tree but **two**: *the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil* (Gen 2:9). The forbidden tree is described both as *the tree of the knowledge of good and evil* (Gen 2:17) and as *the tree which is in the midst of the garden* (Gen 3:3).

The threatened penalty for eating the fruit of the tree of the knowledge of good and evil was instant death (*in the day that thou eatest thereof thou shalt surely die*); but the actual penalty suffered by humankind was expulsion from the garden, *lest he put forth his hand and take also of the tree of life, and eat, and live for ever* (Gen 3:22). So in terms of the Genesis story itself, the serpent was right; Adam and Even tasted the forbidden fruit and they did not die, at least not that day. They were prevented from eating of the tree of life, which would have gained them immortality, and the assumption must be (although it is never stated) that they were not created immortal. So when Christian theology teaches (as in the hymn quoted above) that human death was the result of eating the forbidden fruit, it is going beyond the Biblical account.

I have said that one New Testament author does make use of these themes, and that is St John. What follows is a kind of Easter meditation on the way John uses the Eden story as a lens to focus on the fall and resurrection of humankind. Whereas St Paul openly named Jesus as the Second Adam, and declared that 'as in Adam all die, even so in Christ shall all be made

alive', St John is both more subtle and more thorough in portraying the life and death of Jesus as re-capitulating the life and death of Adam and reversing its dire consequences. Nowhere is this clearer than in his account of the passion and resurrection of Jesus (Jn 18–20).

All four evangelists tell us that on the night before his crucifixion Jesus had a meal with his disciples and then went out to the place where he would be arrested. John is the only one to call that place a **garden**, and that is where he starts his story: *There was a garden, which Jesus and his disciples entered* (18.1). For Matthew and Mark it was 'the place called Gethsemane'; for Luke it was just 'the place'; but for John it is a garden. Although he gives it no name, it immediately becomes apparent that it symbolises that other garden, east of Eden, where God had placed the first Adam and also the Serpent.



The narrative cuts instantly from Jesus to Judas, the other chief protagonist at this point, of whom John has already told us that during supper *Satan entered into him*. So when John reports that Judas arrives with a band of men and officers to meet with Jesus, we are to understand that Satan also is present. We know from elsewhere that Johannine school of writers identified Satan with *that old Serpent, called the Devil, which deceiveth the whole world* (Rev 12:9), so the scene is now set for the showdown: Jesus confronts the Serpent in the Garden. This may seem a far-fetched claim, but only this interpretation makes sense of what happens next.

In the other three Gospels, Judas identified Jesus to the soldiers by greeting him with a kiss. According to John, it is Jesus himself who takes the initiative and asks the soldiers for whom they are looking. They answered *Jesus of Nazareth*, but when *Jesus said to them, I am he* (18:5), instead of arresting him, *they went backward and fell to the ground* (18:6). This makes no sense, until we realise that for John it is not just Judas and the soldiers in 'Gethsemane': it is the Serpent/Satan in 'the Garden', with the ancient curse ringing in his ears, *Upon thy belly shalt thou go, and dust shalt thou eat.* And the words of Jesus, *I AM*, assert the presence of God walking in the garden as he did in the first days of creation.

But Jesus has a dual role in this drama. Not only, as the *Word made flesh*, does he uniquely incorporate 'God's presence and his very self, and essence all divine', but the image of God is present also in his common humanity that he shares with us all. So having established the divine presence by the falling to the ground of the soldiers, John now describes how Jesus surrenders to his captors and allows himself to be taken to Pilate's judgment hall, where the Governor will unwittingly underline his representative humanity, in which 'a second Adam to the fight and to the rescue came'.

The hostile crowd are baying for blood and Jesus is displayed to them: *And Pilate said unto them: Behold the Man!* (19:5). The words are two-edged. At one level, Pilate is mocking both Jesus and the mob, saying: Here, take a look at the pathetic fellow you've brought me; is he really worth executing? But Greek and Latin and Hebrew all have two words for 'man', one used simply of an adult male, the other applying to the whole human race. This latter is the one that John has Pilate use here: in Latin the famous *Ecce Homo!* Which in Hebrew translates as, 'Look – it's Adam!'

And Jesus went out to a place called The Skull, in Hebrew Golgotha. There they crucified him. All the Eden-pointers we have seen so far – the nameless garden, the falling to the ground, Pilate's 'Behold the man!' – are unique to John's account of the passion. Now we come to two details that he shares with the other gospels, but which in his hands reinforce the second-Adam theme. One is the name of the execution ground, called 'the skull'. In later tradition, and quite possibly already by the time of Jesus, Golgotha was reputed to be the burial place of Adam, whose skull is commemorated in its name and which is depicted lying at the foot of the cross in many mediaeval paintings and stained glass pictures of the crucifixion.

Closer to our main theme in this article is the other detail that John shares with his fellow evangelists: the use of the cross – the tree – as the means of execution. Here Jesus' obedience to death won new life for humankind, a mirror-image of the tree in the garden where Adam's disobedience had brought death to humankind. The symbolism of the tree-of-death that becomes the tree-of-life is doubly represented. First, the tree of the cross will restore the life of humankind lost through the act of disobedience brought about through the tree in Eden. And secondly, the single tree-of-the-cross is itself simultaneously the instrument of death (for the one man, Jesus) and the agent of new

life (for all mankind). Once again Paul will make explicit what John tells through his narrative: *For as by one man's disobedience many were made sinners, so by the obedience of one shall many be made righteous … That as sin hath reigned unto death, even so might grace reign through righteousness unto eternal life* (Rom 5:19,21).

Back with St John, and the scene of the crucifixion, *Jesus said to his mother, Woman, behold thy son* (19:26). So far the common elements linking John's account of the passion of Jesus to the story of Adam have included the garden, God's presence within it, Satan's confinement to the ground, the name 'the Man', and the tree. The glaring omission has been Eve, but her name was given to her only after she and Adam had sinned and were expelled from the garden. Up to that point in the Genesis story she was simply 'the Woman'. And in St John's gospel – notoriously – the mother of Jesus is never named, and is only ever addressed by Jesus (first at the Cana wedding feast and then again from the cross) as *Woman*. Now we know why: for John she is the second and obedient Eve who complements Jesus' second and obedient Adam.

Again I have to say that to us this may all seem far-fetched and contrived. But to John's first readers, steeped in the Hebrew Bible and its interpretation by the rabbis, it would all have been as clear as daylight. And just in case there remains any doubt, John has not yet finished with his theme.

Now in the place where he was crucified there was a garden (19.41). Another nameless garden; and yet, of course, for John – and now that we can read his symbolism for us as well – it is not just A garden, it is the garden. *And in the garden a new sepulchre, wherein was never man yet laid.* Of course he wasn't. Adam had been expelled from the garden paradise before his death. *And they laid Jesus there* (19.42). So 'Adam' is lain in his rightful tomb at last.

But even now John has not finished. Here is the encounter between Jesus and Mary Magdalene thirty-six hours later: *Jesus saith unto her, Woman, why weepest thou? Whom seekest thou? She supposing him to be the gardener, saith* … Supposing him to be the Gardener! *And the Lord God planted a garden east of Eden … and the Lord God took the man and put him into the garden to dress it and to keep it* (Gen 2:8,15). The same truth John had put into the mouth of faithless Pilate he now puts into the heart and mind of faithful Magdalene. Jesus is indeed the Man, he is indeed the true Gardener, who restores to humankind access to the tree of Life.

Anthony Freeman is managing editor of the *Journal of Consciousness Studies*.

Further Reading: *Evolutionary Origins of Morality: Cross-Disciplinary Perspectives,* ed. Leonard D. Katz (Imprint Academic, 2000).

Whitebeam, Rowan and the Wild Service Tree

Poet, rock climber and botanist Libby Houston discovers three new tree species in Somerset.

In 2005-6 I discovered three new tree species – in Britain. They even overlap, in Cheddar Gorge in Somerset. The largest of the twelve individuals of one species (Gough's Rock Whitebeam *Sorbus rupicoloides*) had a girth of 31cm: my hands encircled it. We cannot be sure that a larger, older ancestor never existed, but this tree, the oldest present, may well have been the first. If so, an entirely new species evolved here within the last – 30 years?

I'm not a scientist by original training and fell accidentally into this specialist area of botany. Because I'm quite at home on steep slopes and cliffs, with or without ropes, I've become an expert on cliff plants – in particular, limestone cliffs, and Sorbus trees. Too small to compete in level woodland, Sorbuses are well adapted to life in steep places, growing out diagonally or horizontally from edges, ledges or rock-face cracks. The meanness of their environment may stunt or slow their growth, so that what at first appears a half-metre twig may be mature and fruiting; a waist-high whip may be 20 years old. And when the main stem of a larger tree fails, sucker growth from the base can simply carry on.

In Britain we have three main normal sexual species of the genus (and one much rarer, outside this story), Rowan *Sorbus aucuparia* probably the best known – that lovely scarlet-berried upland tree with its feathery, tooth-edged, divided leaves, turned to for protection against evil. Less widespread, the Wild Service Tree *Sorbus. torminalis* is a taller, more woodland species, its seven-pointed leaves like badly-drawn stars, its brown fruit taken for colic. And then Common Whitebeam *Sorbus aria*, named for the white-felted undersides to its leaves which mark the tree out pale on spring hillsides ('beam' from OE beam = tree), less common than a bee orchid in the wild, but a favourite street tree, leaves variously oval, flowers and fruit like Rowan's, itself never huge.

I think there is no record of Rowan and Wild Service hybridising. But Common Whitebeam can hybridise with either, a key factor in the continuing evolution of Sorbus species. Alongside