



DNA fifty years on

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IN APRIL 2003 scientists celebrated the fiftieth anniversary of the discovery of the double helix structure of DNA by Francis Crick and James Watson. DNA is the chemical compound on which genes are imprinted. Genes are the 30,000 or so codes which determine the structure and function of our bodies and brains, together with instinctive patterns of behaviour. Man has the unique ability to control the influences of his genes on his behaviour, and Crick is devoting the rest of his life to finding the source of this free will. He believes that this control mechanism lies in the DNA of certain cells in the brain, and that this discovery challenges the belief that man has a 'soul' separate from his body. It is therefore appropriate that we should look again at the science of man and the origin of free will in the light of Scripture.

Survival instincts

To understand the significance of free will we need to examine the basic facts concerning the nature of man and the essential differences between man and the animals. All animals, including humans, are programmed to behave according to patterns coded in their genes. These patterns of behaviour are called instincts. There are only three basic instincts that are common to the whole animal kingdom:

- 1 **self-preservation:** search for food and shelter;
- 2 **reproduction:** sex drive and parenting;
- 3 **herd instinct:** cooperative behaviour in animals living in groups.

These three instincts are essentially selfish, and are designed to ensure the survival of the species. In the natural world animals have no control over their instincts. Wild animals may modify their survival techniques in differing circumstances, but, unlike humans, they have no powers to reprogramme their essentially selfish genes nor to move to entirely different environments.

The role of free will

We often hear people discussing whether heredity or environment is the more important factor in determining human behaviour. While one side argues for 'nature' and the other for 'nurture', both sides ignore free will, which is the most important factor. Genes determine our body and brain capacities and our instinctive patterns of behaviour; the environment provides parental, educational, occupational and social influences; but free will has the ability to control both the behavioural expression of our genes and the influences of our environment (Fig. 1).

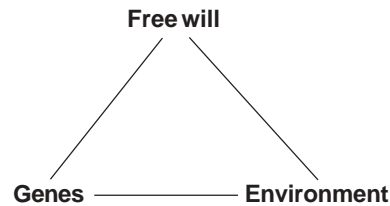


Fig. 1 The triangle of influences that determine human behaviour

Are some animals more human?

Owners of pet animals might say that we have exaggerated the difference between man and the animals. But, whilst it is true that dogs can be taught to control some aspects of their instinctive behaviour, they still remain captive to their selfish genes.

Domesticated dogs have been selectively bred from wolves, which are gregarious animals. They hunt in packs and therefore need a leader or 'top-dog'. A dog which is isolated and house-trained bonds to its owner, who becomes a surrogate 'top-dog', and this relationship is reinforced by the fact that it is regularly fed and therefore does not need to hunt. Having become dependent on its owner, the dog's instinct is to do everything to remain in favour. So the faithfulness of 'man's best friend' is essentially the

exercise of its instinct for self-preservation. Furthermore, in many breeds of dogs the gregarious hunting instinct is never far from the surface. If such dogs are allowed to group together they can easily become a hunting pack, and may savagely attack a vulnerable child.

The fundamental differences between man and the animals were evident from the Creation. Of the animals God said: "Let the earth bring forth . . ."; but of man He said: "Let us make man in our image . . ." (Gen. 1:24,26). Since we are expressly forbidden to make God in our image (Ex. 20:4; Rom. 1:23), the 'image' of God refers to mental faculties which give us the potential to acquire Divine characteristics. These unique faculties are language, consciousness and a sense of time. Of these, language is the most fundamental, because it is only through language that we are able to understand abstract concepts, such as the existence of God, and moral concepts, such as good and evil, love and hatred, justice and mercy. In Genesis 1 and 2 we find that from his creation Adam was endowed with language that enabled him to communicate with God and exercise his free will to control his selfish instincts.¹

Determinism

So the essential difference between man and the animals lies in our ability to understand abstract moral concepts and use these to control our genetically driven instincts and the influences of our environment. This control mechanism is called free will because God has given us freedom to choose (Isa. 7:15,16). Those who deny the existence of an immanent and loving God also deny the existence of free will. They argue that, however much we appear to exercise choice, free will is a delusion, and all our actions are controlled by brain cells programmed by our genes. This rejection of free will is called determinism.

Determinism has profound implications for religion in general and the Bible in particular. If there is no free will, then, like the animals, we have no real control over our actions and therefore cannot be held to account. In the absence of free will, Divine law would be impotent and judgement rendered futile. Denial of free will is therefore a denial of a God Who has any interest in His creation.

Sadly, free will does not confer on us a Divine image. By its very nature, free will can be used for good or evil. It can be used to curb our selfish animal instincts or to indulge and pervert them. So it is no surprise to find that many of the evils listed by Paul in 1 Corinthians 6:9,10 are perversions of our animal instincts, worse than anything found in the animal kingdom: "neither the immoral, nor idolaters, nor adulterers, nor homosexuals, nor thieves, nor the greedy, nor drunkards, nor revilers, nor robbers will inherit the kingdom of God" (RSV).

Those who believe in universal human salvation need to explain why, since animals are mortal, humans, who behave worse than the animals, should be given immortality. On the other hand, those who believe that man has evolved by natural selection and survival of the fittest need to explain how such perverse tendencies could have developed, since perversions significantly reduce fitness to survive.

We are unable to find an explanation for free will by looking at our DNA. We need to go back to Genesis 2 and accept that man was endowed with the unique ability to make conscious choice between good and evil, a choice which gives us a hope for the future. Those who reject God reject hope. In recent years none has worked harder than Richard Dawkins to convince us that there is no God and that we are captives to our selfish genes. So it is profoundly significant that at the end of the third edition of *The Selfish Gene* Dawkins concedes, "We, that is our brains, are separate and independent enough from our genes to rebel against them . . . There is no reason why we should not rebel in a large way too".

Dawkins does not explain which part of our brain is able to control our genes, but he is clearly unable to face up to the awful prospect of man living without free will. And, even if Crick has found that part of our brain which gives us free will, this does not diminish our responsibility to use our free will to honour and obey our heavenly Father.

1. If Adam and Eve did not have this understanding then why were they condemned to death for a *first* offence?

" . . . I have set before you life and death, blessing and cursing: therefore choose life, that both thou and thy seed may live: that thou mayest love the LORD thy God, and that thou mayest obey His voice, and that thou mayest cleave unto Him" (Deut. 30:19,20).