

3. Aggression and punishment

A man stabs another man with a knife outside a pub on a Friday night and seriously injures him. When questioned by police the next day he says he is unable to remember any of what happened as he had had too much to drink.

A woman's boyfriend leaves her for another. She is very upset indeed to the point of being quite distraught. She goes to her boyfriend's car and slashes the tyres. He goes to the police and asks them to charge her for the crime. She doesn't deny the crime but claims that she was so upset she didn't know what she was doing.

A woman suffers from deep depression. She has been to hospital and the psychologists recognise her illness, but don't have the resources to help her. Back home in a fit of depression she kills her young child. She admits to the crime, but says she did it while under the influence of the depression.

Two teenage boys are fighting in the school playground. One boy seriously injures the other but claims that he was only fighting to defend himself after the other boy, now injured, started the fight. Witnesses agree this is true.

- 3.1 What should happen in each of the cases above? Should anyone be punished? What sort of punishment is reasonable?
- 3.2 A 14 year old hits another 14 year old. When asked why, the child says, "I just felt like it. I couldn't help it, it was just how I felt." What do you think should be done?
- 3.3 The Old Testament speaks of "an eye for an eye". Is this a reasonable approach to punishment?
- 3.4 When a country goes to war the government normally does not ask its citizens to vote on the idea – it tends to declare war and get on with it. The government then expects its citizens to support the war effort for the good of the country. What should be done with people who declare they are pacifists? What should be done with people who fight for the other side, and subsequently get caught?
- 3.5 Two boys find a young child playing outside the child's home. The boys take the child to an isolated field, where they torture the child, who subsequently dies. What punishment should the boys receive? Does it matter how old the boys were, and how old the child was?

4. Aspects of Science

Science is a way of seeing the world. At its base is the scientific method which says that if we want to know if something is true, we make observations and conduct experiments to try to prove or disprove a hypothesis.

The hypothesis suggests what will or will not happen in particular circumstances. Valuable hypotheses are those which apply to a wide generality of cases, for example, that “burning only happens when oxygen is present”. This hypothesis doesn’t suggest that it is true only in Britain, or only on a Thursday. It suggests that it is true always, everywhere.

To prove if this hypothesis is true or untrue we can take something that we know does indeed burn and put it in an atmosphere with lots of oxygen present to verify that it burns. Then we can repeat the experiment in an atmosphere with less oxygen or no oxygen, and see what happens. We might then repeat the experiment a lot of times and eventually reach the conclusion that oxygen is necessary.

The point is that we reach a real understanding of how the world works by doing experiments and drawing conclusions from the results.

Attached to this is the view that some people hold that by learning more and more about the world, we can make the world a better place. In fact some believe that by learning more about the world through using the scientific method we are bound to make the world a better place. Learning how the world works allows us to make warmer clothes, produce more food, build computers and TV sets, and so on. So the idea arises that science – and the technology that springs from it - is good for us.

There are problems with the scientific method however. Sometimes it is not easy to conduct an experiment. It isn’t possible to recreate the origins of the universe nor can we observe it. We can’t find out what happens when part of the brain is removed by experimenting on people. We can’t actually see and measure emotions – we can only observe the behaviour that we believe reflects emotions. So we have to observe and draw such conclusions as we can. Thus sometimes we become slightly removed from direct observation and experiment, and have to make deductions.

In studying the world in this way we tend to divide the world into sections. There are many ways of doing this – but here is one set of divisions that many people seem to find quite helpful.

- Astronomy
- Biology
- Chemistry
- Medicine
- Physics
- Social sciences (psychology, sociology)

4.1 Is the scientific method harder to operate in some of these areas of science than others? If so, which ones, and why?

- 4.2 Where does the study of evolution fit into this division of science? Can we prove evolution is a valid hypothesis? Why do some people believe it and some not?
- 4.3 Have we reached the end of evolution?
- 4.4 One of the great classic examples of the application of the scientific method was carried out by an Austrian Monk called Gregor Mendel. What did he do, and what did he discover?
- 4.5 What is psychology? Is it really a science? How can it apply the scientific method?
- 4.6 What did Galileo achieve? How did he use the scientific method?
- 4.7 When a new drug is invented how is the scientific method used to test it?
- 4.8 Why do we smash atoms?
- 4.9 Scientific advance brought us the nuclear bomb and penicillin. Is scientific advance always beneficial?

5. Medicine

When we are ill we want one simple thing – we want to get better. We consult a doctor hoping to get a pill that will simply put everything to rights so that we can carry on with our normal lives. The last thing we want to hear is that there might well be a cure for our illness but that the medicine in question isn't licensed in this country on ethical grounds. Ethics can seem quite interesting when we are well, but sometimes it is not quite what we want to know about.

We live in a society which has considerable concerns about how far medical research should go. All of us would like to have cure for cancer. But there are some other areas where agreement is harder to reach.

- 5.1 What is genetic engineering? Should we encourage research in this area?
- 5.2 What is cloning? What is the importance of Dolly the sheep in this area? Does this area of research have importance for us? Should we allow this research to continue?
- 5.3 If researchers find a way to ensure that no more children are born with Downs syndrome, should they be allowed to offer a service to all parents so that the Downs child is cured before birth, or the foetus aborted?
- 5.4 Some countries use antibiotics such as penicillin very regularly to treat all sorts of illnesses, while in other countries (such as the UK) penicillin is not used nearly so much. Why is this? Why should we not use such drugs as penicillin all the time?
- 5.5 Should parents to be, be able to choose the sex of their child?
- 5.6 There has been some suggestion of late that scientists have discovered a gene that is responsible for some people being dyslexic. If they found a way to stop anyone inheriting this gene should we allow this to happen?
- 5.7 If doctors were able to tell in advance what the intelligence of a child is likely to be should they tell the parents to be?
- 5.8 Are there some people who are not suitable to be parents? If so, should the state try to stop them?
- 5.9 The development of medicines is in the hands of commercial companies, who undertake research and then try to redeem their investment through developing the drugs and selling them. This can result in drugs which actually cost a few pennies to make, being sold for several pounds each and this in turn can mean that people in some countries simply cannot afford the drugs that will cure their illnesses. Is this a reasonable way to proceed?

6. Technology

Technology is the application of science for human purposes in industry, commerce, the arts, education and so on.

Technology has always changed the way we use the world – indeed we could argue that if it didn't do that it wouldn't be worth bothering about. The development of the wheel changed the way in which we could move produce from the field to the homes in which people lived. The development of the axe and the spear made it easier to kill animals.

Many technological developments have been seen as threats to the status quo and there have always been attempts by some people in power to restrict the development and use of technology. For example, the printing press was seen as a great threat to those who had a hold on knowledge. When the first railways were built some town councils refused to allow a railway station in their town for fear it would bring in a flood of undesirable people.

Of course it is not just the invention of a new technology which changes lives – the technology has to be used, or made available to large numbers of people, at prices that they are willing and able to pay. The development of the car revolutionised the way we think about travel, about distance, about where we work and how we work and so on. But none of this would have happened had not Ford developed not only the model T, but also the notion of the production line which enabled the company to produce large numbers of cars at prices people could afford.

It is also fair to say that more recently computerisation did not make a huge difference to most people's lives until Apple developed the Apple II personal computer which individuals could buy and use at home. This in turn opened the way for the PC based on the IBM system and led to millions of people having their own computer and later gave us the internet and email as a method of mass communication (rather than as a communication system for the USA in the event of nuclear war - its original purpose).

What is true is that very few attempts by governments or powerful groups to stop the development of new technology have ever succeeded. If the technology works, if people see a use for it, and if it is available at a price that people are willing to pay, it will be used, no matter what governments and others try to do.

- 6.1 Should we accept all technological developments or are there some that we should turn our backs on? Should we ever say, "this technology is too dangerous to use" or "this technology de-humanises us?" What technologies are under debate in this way?
- 6.2 Do we have the technology to create energy in a way that does not create pollution? If so, why don't we all use it? Does it matter?
- 6.3 Should we continue to burn coal, oil and gas in order to create electricity? If we stopped what would the impact be on our society? Is there any way of reducing the amount of power that we consume?
- 6.4 Should we continue to develop nuclear power? What are the benefits of nuclear power? What are the disadvantages?