



Spirituality and Science

It is often argued that science and spirituality are opposites. In the past, many people thought that you could not be scientific in your approach to life and also believe in God. They said that you could not accept scientific explanations and have faith. They thought that to be scientific was to deny a spiritual dimension to life. Today, science has dramatically changed the way we understand almost everything around us in the natural world, and has altered that world irretrievably. Nevertheless, increasingly science and spirituality are recognising that they can complement each other.

What is science?

Science is the systematic study of the nature and behaviour of the material and physical universe based on observation, experiment and measurement.

(Collins Dictionary)

Science aims to give us a rational, verifiable explanation for all that we see and experience. In order to test whether an explanation is true or not, the scientific method involves making a prediction (a hypothesis) and then testing to see if the hypothesis is true or not by carrying out an experiment. This experiment might involve incredibly detailed observations: identifying the minute amounts of radiation emitted by stars aeons of light years away; carrying out elaborate laboratory-based analyses such as those carried out to determine the sequence of genes in human beings. A scientist called Popper has said that scientific experimentation cannot prove that some theory is 'true' but can only demonstrate that some explanations or predictions are 'not true'.

Science has been seen as a form of study that looks only at the practical, tangible world and is not concerned with questions concerning the spiritual aspects of life or of religion. Science has deepened our understanding of the universe and the nature of human beings, but it is increasingly beginning to ask the same fundamental questions that have puzzled religious people and philosophers. Now that we understand so much of the history of the beginning of the universe and of life forms, both theologians and scientists are faced with questions such as: 'How did it all begin?' And 'What is life?'

Science and religion

It is often assumed that the answers given by a religious person and a scientist are bound to be different. For example, scientists would give one set of answers to the question 'How did people become as they are now?' They would talk about evolution and the survival of the fittest. Some religions would say that God created the world in seven days. It would seem that one set of explanations must be right and the other wrong. What is the 'true' explanation?

For a scientist, something is 'true' if it can be predicted and proven through experiment only. For a religious person, truth comes from faith in the existence and activity of God, a truth that does not necessarily require empirical evidence.

This conflict between scientists and established religions has been around for many hundreds of years. For some, it seems as though religious explanations look backwards whereas science represents progress and is therefore more 'true' because it is more recent and in tune with our modern age. However both ways of thinking, the

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scientific and the spiritual, can coexist because they are answering different types of questions. Both are rational, but in different ways. Both are worthy of mutual respect.

Here is a well-known example of the different ways of looking at things:

You go into the kitchen and see a kettle boiling on the gas stove. You ask, 'Why is the kettle boiling?' Your colleague who is taking a science course replies, 'Because the vapour pressure is equal to atmospheric pressure.' You are interested and ask, 'Why is the vapour pressure that high?' and the reply comes, 'Because the kinetic energy had been imparted to the water molecules by the exothermic oxidation of methane in the coal gas.' You may continue to ask about the last answer and so on. However you might get quite a different answer to your question. 'Because I want a cup of tea.'

One question but two very different answers. The first scientist is answering the question 'How?' whilst the second is answering the question 'Why?' Both answers are equally valid.

Some scientists who are religious, and some people who have faith and appreciate the analysis of science, manage to resolve the

possible conflicts between their two belief systems by simply keeping them apart. The laws of science govern some aspects of their lives and beliefs, whilst others are informed by the laws of God or religion. At one level this works, but the two great ways of perceiving truth may lead to a deeper understanding if they are brought together. Many scientists who have faith are able to bring together their faith and their scientific inquiry. Their faith has developed through the practice of science.

There may come a point when science has so completely answered the 'How' questions that we are left with the question 'Why?' In the nineteenth and much of the twentieth century, scientists were so focussed on acquiring knowledge that they saw questions outside their investigations as superfluous and unscientific. Now so much is known, the larger, underlying questions are emerging. Scientists may have to look at ways of thinking that they had previously thought of as unscientific. However it would be naive to believe that we could start from scientific analysis and work back and back until we could 'prove' the existence of God or explain faith or religious feelings in a purely scientific way.



Creation or the big bang?

People have been fascinated by the creation of the world and each religion has its own explanation as to how the world began. These great stories tell of the creation of the physical world and the first men and women. Many of these stories also tell of the moment when human beings first learnt the difference between right and wrong.

Creation stories

The major world religions have stories within their sacred scriptures or holy texts that seek to explain the origin of the universe. Some people within these faith traditions accept the stories as a literal explanation. Others understand the stories as a myth, that is to say a story that attempts to encapsulate a truth in pictorial language.

Jews and Christians share the story in the book of Genesis of the creation of the world by God in seven days. Few would accept that the story is a literal explanation of what actually occurred.

For Moslems, the Qu'ran mentions the evolution story in many verses. Verses 41,9–12 explain the creation of the heavens and the earth in six days (noting that God's days are not like ours for they extend in time to long eras). From verse 21:30, Moslems deduce that the heavens and the earth were initially one. This corresponds with modern science.

Many cultures also have stories or fables that explain the origin of creation. For example, many African fables seek to explain the origins of different animals.

The big bang theory of the creation of the universe

In many ways the scientific 'story' of the creation of the universe is as marvellous and also as hard to believe as the religious explanations or mythological stories.

According to the big bang theory, about 15 billion years ago there was a huge explosion of energy that blasted our universe into existence. We do not know why this explosion happened and we do not know what lay beyond the first 'big bang'. Neither do we know what lies beyond our universe in terms of time or space. What we do know is that the universe with its millions of galaxies, stars, black holes and other matter is expanding. We also know that there is an extraordinary combination of circumstances that result in the following:

- a balance between the force of expansion and the force of gravity so that matter can gather together to make bodies like our earth
- great nuclear explosions have created the atoms of which we are made
- the creation of stars, like the sun, that burn sufficiently brightly to give us energy but not to annihilate us with its heat or allow us to freeze.

Science can explain many of the events that happened immediately after the universe began and on through the following billions of years. But the combination of circumstances that have made life possible billions of years after the beginning of the universe are truly phenomenal and raise huge questions for even the most pragmatic of scientists.

Creation or the big bang?

The evolution of life

The earth is estimated to be about 4.5 billion years old. The first chemical traces of life are more than 3.8 billion old. Very basic tools have been found that are 2½ million years old. The remains of the first hominids modern men are only 40,000 years old and traces of artefacts showing that human-like creatures that made things that are decorative are only 25,000 years old.

Again, science has a fascinating explanation for the development of the complex living world we inhabit today. Evolution is a process whereby life forms produce new generations that are variations of their parent organism. In a dangerous and competitive world only the variations that are the fittest to cope with their environment survive to produce in turn their own variants of offspring. This process of gradual change by natural selection can be traced through the fossil record.

In the last fifty years, scientists have unravelled much of the genetic code of living things. This is the information that passes from generation to generation and which largely determines the characteristics of organisms. Research can now trace our human ancestry – to the extent that it is now known that all the women in Europe are almost certainly descended from five different females who came to Europe several thousand years ago. This genetic research has been used to substantiate the fossil record and to establish evolutionary relationships between different species.

However, despite the enormous amount of evidence, the concept of evolution is still a theory not a fact. And, however persuasive and detailed the evidence, not everyone is convinced.

Creationism

The conflict between scientific and religious explanations of the living world is clearly seen in the arguments between Christian groups who call themselves Creationists and the scientific establishment. Creationists believe that the book of Genesis in the Bible is the 'true' story of Creation. They believe that the world is only 10,000 years old, that humans and dinosaurs lived at the same time and that the dinosaurs were wiped out by the Flood. In some parts of USA, they insist that Creationism be taught in schools alongside the theory of evolution. It is very hard to reconcile these two views and there is little mutual understanding or mutual respect.

Is there a place for God and spirituality in a scientific universe?

There are physical scientists and cosmologists (those that study the universe) who can see some 'design' in the series of phenomena that led to life and consciousness. There are so many extraordinary features in the development of the cosmos that they draw the conclusion that God designed it in such a way that life could develop. But given the scale of the space and the time involved, others argue that a series of coincidences is a more rational explanation.



Body, mind or soul?

We are on the threshold of making a huge discovery. Scientists have almost completed the analysis of the whole genetic makeup of a human being. The Human Genome project has sequenced all of the 80,000 human genes. This raises the possibility of gene therapy in human beings. But will this magnificent piece of research tell us everything about what it is to be human? This seems unlikely especially when we learn that 98% of the genetic material analysed is the same as our near biological relation, the chimpanzee. Although this project will have enormous consequences for our health and the development of medicine, we are still a long way away from answering questions that relate to our mental, emotional and spiritual natures.

Nature versus nurture

There has been a lot of debate over the last century over the question of nature or nurture. People ask which has the most important influence on a person, her genetic makeup or her upbringing? Identical twins have the same genes but, if separated, may grow up in very different environments and so turn out very different from each other. A person is influenced by both their genetic make-up and also the environment in which she is raised.

Our brain and our mind

The brain is made up of millions of nerve cells called neurones that connect together in an infinite number of ways. We know from research into the mapping of the brain that different areas of the brain are responsible for different functions (hearing, smelling etc.) and for different feelings. Parts of the brain when stimulated will result in angry feelings and behaviours, some will give pleasant

sensations. This rough correlation between sensation and stimulation of certain areas has led some scientists to believe that, if all the neurone connections were adequately analysed, all our feeling, our spirituality, our memories and our sense of awe could be explained in strictly physical terms. In other words, we would have no special consciousness but just electrical impulses passing from cell to cell in a particular way in our brains.

Other scientists are following different lines of research and working with computers to construct 'artificial intelligence'. This has had some success in that a computer called 'Deep Blue' has been able to beat a world champion chess player. However, although chess is a complex activity, it is played by very strict rules and involves the analysis of the consequences of various courses of action, the sort of analyses that computers are particularly good at doing.

At the moment, it is hard to see how the mapping of the brain or the development of computer-based 'intelligence' can explain the distinctive consciousness that appears to be a unique characteristic of humans.

Consciousness

'Consciousness is perhaps the most important flowering of creation within our remarkable human race. We seem to have a special kind of consciousness manifested particularly in language and in our unique capacity to reflect on what we know. That in turn gives us a capacity for judgement, discernment and freedom not found elsewhere in creation. It is, in effect, with human consciousness that creation has become spiritual.'

Body, mind or soul?

Even harder to define and explain in strictly physical terms are the higher aspects of our consciousness that we often call the 'soul'. A definition of the soul has been proposed by a Jungian psychologist James Hillman:

*'By soul I mean, first of all, a perspective rather than a substance... This perspective is reflective; it mediates events and makes differences between ourselves and everything that happens... (Soul) is the unknown component that makes meaning possible, turns events into experiences, is communicated in love, and has a religious concern.'*²

We may not all agree with every element in this definition but it helps us to grapple with what is almost impossible to define.

¹ Science meets Faith (edited by Fraser Watts, 1998) p60

² Science meets Faith (edited by Fraser Watts, 1998) p67



Science and health

Science has had a profound effect on the lives of many people in the world. It has brought a healthy living to many people through better nutrition and hygiene. Many diseases have been either eliminated or controlled. People in some parts of the world tend to live longer and have healthier children. This is often due to a good diet but is also affected by economic stability, access to education and good health care. It is a different story for the majority of those living in the countries of the Southern Hemisphere. All too often, scientific advances have little bearing on their daily living.

Nevertheless, scientific research and the inventions and procedures that have resulted from science have also challenged many religious teachings and taboos. Many people now live in a world where they are faced almost daily with choices that science has made possible that bring them into conflict with their traditional practices and their spirituality.

The beginning of life

Scientific processes give people choices over their reproduction in a completely new way. All previous societies have had rules and customs that have tried to ensure that children are brought up in a stable environment, largely through controlling a woman's sexuality. There are many ways that scientific developments have freed women from the fear of unwanted pregnancy.

Contraception is now available, except where societies or religions restrict or prevent its use. Some people do not agree with contraception because they see it as unnatural. Others are worried about the long-term side effects contraceptives can have on women's health. But even where contraception is frowned on, HIV/AIDS education emphasises

the importance of using condoms in order to help prevent the spread of the virus.

Artificial means of conception through procedures such as IVF (In-Vitro Fertilization) has made having a family possible for people unable to conceive naturally. Scientific advancement has contributed to this although some religious faiths do not approve what they describe as artificial methods of fertilisation.

Once a child is conceived, scientists can identify the sex of the child at an early stage, as well as many abnormalities. This offers parents the possibility of choosing the sex of their child, or of aborting foetuses that are unlikely to survive. As genetics develops, it will soon be possible not only to identify actual problems with the foetus but also to predict potential illnesses that may strike later in adult life. Parents may be faced with a decision to terminate the pregnancy or to give birth to a child that has a high risk of cancer or of heart disease when he or she becomes an adult.

Sheep and cows, both complex animals, have been successfully cloned. Techniques needed to clone human embryos, perhaps only to grow life-saving organs, already exist.

These new possibilities raise in a very fundamental way, the following questions: 'What is a human being? When does life begin? Who has the right to decide for or against life, the parent or the unborn child? All these questions lie at the heart of our understanding as spiritual beings.

During life

For many people, science has improved their lives radically. Malnutrition has decreased thanks to the availability of more and better crops, linked with a wider knowledge of what

Science and health

is needed for a healthy diet. Clean water, better hygiene, inoculations, preventative programmes and antibiotics have eliminated or diminished many diseases in large parts of the world.

However the results are not all on the positive side. The imbalance between the health of the developed world and that of the developing world is getting wider. Business interests that exploit scientific progress often focus all their efforts on the richer nations where their returns will be high. Poorer countries that cannot pay the high prices demanded for seeds, agricultural implements and drugs are often neglected. Diseases that are controlled or non-existent in the developed world still kill many millions in the developing world. In the richer countries, health care is often focussed on highly expensive treatments that are available only to a few, leaving insufficient resources for preventive work that is less glamorous but would benefit the majority.

While science and its industrial developments provide some solutions to the challenge of improving living conditions, they also can undermine traditional and religious practices that have health benefits. This is especially so in the case of the use of traditional food and food preparation.

End of life

Moral and spiritual questions now surround the end of life.

Modern medicine is able to keep 'alive' people in what is called a 'persistent vegetative state' for many years. Most of these people never recover but occasionally one such person will wake up after many years, reigniting the controversy over whether it is right to turn off the machines that are keeping them alive.

Individuals themselves are increasingly demanding the right to die especially when they have terminal illnesses and are in pain. Assisting people to die is now legal in some countries, whilst in others the doctor or relative can be tried for murder. Euthanasia contradicts many religious taboos and the medical code of ethics where doctors have a duty to strive to keep patients alive.



Science, industry and spirituality

Science has in many cases led to industrial processes that have made huge changes in the way we live our lives. The food we eat, the conditions in which we live, the places we work, what we buy and what we wear are, in most parts of the world, heavily influenced by the scientific developments of the last hundred years.

Environment

Science has made the cultivation of many food-producing plants into a large scale agribusiness. With the use of farm machinery, small fields cultivated by individual farmers are disappearing. This has changed the appearance of the countryside and caused the movement of many peasant farmers to the cities to find new forms of work. The globalisation of agriculture, where buyers and sellers of produce operate in international markets, can put traditional farming and rural economies at risk. The close relationship (not always a happy one) between human beings and Nature, with its celebrations of the seasons such as the harvest and sowing times, have largely disappeared.

Genetically modified plants that are resistant to disease and yield high crops can produce more food for a growing world population that needs to be fed. There are several advantages of genetic engineering in plants. The moving of genes from one organism to another results in enhanced resistance to weeds, pests and diseases; improved fertility and viability in hostile environments; increased nutritional qualities in food; improving the tastes, texture and appearance of food; production of pharmaceuticals from plants and bacteria. But developments that make seeds sterile so that farmers are compelled to buy seeds from multinational industries responsible only to

their shareholders would destroy many farmers. There is also the fear of unknown consequences to the environment and to the human body. The rich diversity of nature is being lost as more of the land is used for single crop industrial farming.

Energy provided by electricity and gasoline (petrol) has transformed our lives. Oil, from which comes petrol, is a finite resource and will eventually run out. Most of the methods of generating electricity use finite resources too or, in the case of nuclear energy, pose very long lasting safety risks. Think for example of the Chernobyl disaster or of the dumping of nuclear waste at sea that affects marine life. For many people, the excessive use and waste of the earth's resources affects them spiritually too.

Large-scale engineering projects can be awe-inspiring in the audacious way they attempt to control nature. Dams can curb the flood power of rivers and can produce much needed electricity and irrigation water. Yet these same dams ignore the needs of local people who have to be moved away from their homes, their ancestors, their sacred places. And the environmental consequences of the dam may not be known for decades after it has been built and may not be always positive or pleasant.

Employment

Automation and computerisation have led to big factories requiring fewer and fewer people to work in them. In the developed world, manufacturing jobs are now a small fraction of the employment market. Increasingly jobs are only available for those with advanced skills. Women often have to work for low wages in service jobs. Men may be unemployed yet unwilling to look after the

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home. Women may be the only wage-earner yet often have to do all the domestic and caring tasks too. This has had negative consequences for family life.

Globalisation of big business means that work in many different sectors is moved around the world to wherever there is cheap labour available. Unemployment is increasing in both the developed and developing world. There is increased financial insecurity so that families can no longer rely on a safe source of income.

This insecurity and the demoralising effect of unemployment undoubtedly have a negative effect on many people's spirituality. If people feel that they cannot participate in society because they are unable to contribute through work, they are much more likely to feel diminished spiritually.

Transport

People are more mobile than ever before. This can be good in as much as they can visit friends and family more often, enjoy leisure in far flung places, explore more of the world, visit sacred places. But if lots of other people are visiting sacred or beautiful places at the same time, including some who feel little sense of awe or appreciation, the sacredness of the place may well be lost for everyone.

War

Much of the world's financial resources are spent on weapons. Often these are extremely sophisticated, relying on the most advanced scientific research. Money, energy and time spent in devising ways to destroy other human beings could be used instead to improve education, health and quality of life for all. Why we spend so much money on developing the science of war is a fundamental question for everyone.



Spirituality and information technology

We are living in a world that is full of masses of information. The impact of information technology and the internet upon many parts of society has increased rapidly in recent years to become the focus of a lot of media attention, mainly from the secular perspective. But the relationship between spirituality and cyberspace is largely unexplored.

The growth in information technology has led to a new form of inequality. The 'haves' are those with access to computers and the internet. Those without access are the 'have nots.' They are denied access not only to a large mass of information but also to the ability to connect with people right across the world. This is known as the "digital divide".

Digital technology

The hallmark of cyberspace is digital technology. Digital technology is revolutionary, yet it poses many ethical questions.

1. What is true?

The distinction between education and entertainment is often blurred. The internet gives you access to huge amounts of information. It is possible to communicate across the world; but it is not always possible to be sure that the information that you are given is true and or accurate.

2. What are real relationships?

If you have a cyberfriend, to what extent is the relationship real? In cyberspace, the ancient question is posed once again: who is my neighbour? People can post messages on the net and you can reply or not. We are creating

fantasies that can be good or bad. A community used to comprise people who lived near each other but the web creates communities of people with similar interests, fetishes or concerns. This can be good when it results in people sharing information for a beneficial reason such as medical research. It can be bad when it enables neo-nazis to 'meet' more often. Cyberspace can unite people who are otherwise lonely. It gives friends and family who live in different parts of the world the opportunity to 'chat' or even to "see" each other. As with all things, if used wisely cyberspace is a great asset. But if abused, it can isolate individuals not only from each other but from the natural world too.

3. What is the nature of the information available?

There are ethical concerns about the kind of information that is posted on the net. Should pornography for example, be available to everyone? Who should be prevented from accessing it? Who should do the preventing? Unwanted mail or information can be irritating or even offensive. All published information is unregulated and anyone can publish anything whether it is true or not. The individual is in control at whatever age or sex.

Computer hacking is a new form of crime. Hackers gain access to information and records that are supposed to be confidential. They can also introduce viruses into the system that destroy computer files and computer hard disks causing much distress and loss of time.

Spirituality and information technology

Spiritual considerations

It is impossible to generalise about the effect of information technology on the spirituality of the individual. There are very real ethical issues to consider that affect individuals' spiritual dimension. But there are real advantages too. It is fantastic to be able to connect with people and to access information across the world. Our own lives are put into perspective and important values reinforced. Members of WAGGS are encouraged to use information technology where possible, but to remember to use it and not to be used by it.



Spirituality and the media

Images are beamed into the televisions in our homes from around the globe. These pictures can be good or bad, unusual or depressingly stereotypical. They can contribute to the sense of us all belonging to one human family because we can no longer claim ignorance of the lives of people living on the other side of the world. Or they can emphasise difference. It can also make people want what they do not have.

Media and education

The television is a very important media for education, information and entertainment. If programmes are chosen discriminatingly, people can learn a lot from them.

Media domination

The media dominates most societies and cultures. It both reinforces and challenges the way in which we live. In many households the television has replaced many family activities and family conversation. People no longer choose not to watch; they watch as much as they can. Meals are eaten in front of the television and the lives of fictional characters can seem more real than that of friends and neighbours. Enter many bars in any country in either hemisphere and a television will be on. Similarly, advertising bill-boards are displayed in most towns across the world. The power of advertising and of the media is huge.

The media and culture

There is a clear link between media images of different cultures and prejudice or racism. Negative images of different cultures stick in people's minds and become fact. The media can either promote or damage both inter-cultural and inter-faith relations.

Sexism in the media

Sexist stereotypes can be internalised without people being aware that this is what they are doing. There are many stereotypical images of women as sex objects, in the kitchen, women slimming and as carers. Advertising is often pitched at women.

It is really important that women complain about a negative media image.

Media violence

At the end of the last century, the United States Senate produced a report on the effect of media violence on children. The report made a direct link between the violent images that children see on the television and violent behaviour. At minimum, media violence models the use of force as a main way to solve and resolve conflict. This may or may not be true.

Of course there are other issues that contribute to the growth in violence: overcrowding, poverty, hunger, unemployment and drug addiction. But the media connection cannot be ignored.

Spirituality

The media can be very destructive. It can promote materialistic values over and above any other consideration. 'You are what you have, 'you are what you look like,' become dominant themes. But equally, the media can encourage a spiritual awareness to life. It can challenge complacency and urge action on behalf of self and others.



Science and spirituality

Purpose

To explore how science has dramatically changed many aspects of our life, often for the better, and how it has affected the spiritual dimension too.

Materials needed

Photocopy of this form, pens

What to do

Complete the following form in pairs and then discuss your findings in a group.

Aspect of life	Scientific discovery/invention	Positive effect	Negative effect
HEALTH (e.g.)	<i>antibiotics</i>	<i>Polio and TB almost eliminated</i>	<i>Some resistance to antibiotics and therefore some diseases cannot be treated.</i>
WORK			
LEISURE			
ENVIRONMENT			
LIVING CONDITIONS			
CULTURE			



Women in the media

Purpose

For participants to examine how women are portrayed in the media.

Materials needed

Magazines, newspapers, scissors, large paper, glue

What to do

1. Gather an assortment of magazines. Divide participants into small groups and ask each group to choose one title from the list that follows. Ask them to cut out pictures from the magazines and make collages that illustrate their titles:

- Women's achievements
- Women as positive role models for girls
- Women as victims
- The beauty of women
- The usefulness of women
- Women having fun
- Women at work

After viewing each collage, discuss some of the points raised by the pictures.

2. Working in small groups, look through recent newspapers and make a list of attributes used to describe women. Are they mainly positive or negative? How do these make you feel?
3. Think about a recent film you have seen or TV programme that you have watched. How are the women portrayed? Why do you think this image is portrayed?
4. It is really important to complain about a negative media image, report on the advertisement. Can you think of any that offend you? If so, write to the manufacturer, editor and relevant Advertisement Standards Authority to complain.



Science and health

Purpose

To think about the relationship between spirituality and health

Materials needed

Pens/paper or flipchart/blackboard

What to do

Encourage participants to consider the following:

1. Food preparation in the past has been influenced by religious practices in many cases. Some foods are banned and others need to be prepared in a certain way.

Give some examples of this and work out why this might have been good for people's health. Are these reasons still as valid today given the fact that there are new ways of growing and preserving food?

2. Hygiene practices in the past have been influenced by religious practices in many cases.

Give some examples of this and work out why this might have been good for people's health. Are these reasons still as valid today given new ways of ensuring cleanliness and clean water?

3. Is it ever right to end life? Discuss this question in the light of the following situation.

'Nigel Cox had been Lilian Boyes' doctor for thirteen years. They had a close personal relationship, and he promised her that she would not suffer as she got to the end of her agonising illness. Unfortunately, the painkilling medicine he had counted on failed, and she begged him to kill her. He injected her with a lethal dose of potassium chloride, and she died within minutes. He scrupulously reported the injection in her medical records, and a Catholic nurse who discovered the report informed the hospital authorities. Because the body had already been cremated and there was no evidence that the drug had actually killed her, he was tried for attempted murder. His lawyer argued that he had given her potassium chloride only to relieve her suffering, but the jury disagreed, because the drug had no analgesic effect, and found him guilty. The judge sentenced him to one year, with the sentence suspended. People on both sides of the question were outraged, some that he had been treated so leniently, others that he had been convicted at all for performing an act of compassionate friendship.'

¹ Richard Holloway, *Godless Morality* Canongate, Edinburgh 1999 p. 127



Creation or the big bang!

Purpose

To encourage participants to think about the relationship between spirituality and science.

Materials needed

None.

What to do

1. Invite participants to discuss their view of the origin of the universe. Is their view influenced by any religious or spiritual belief?
2. The leader should read for herself the section Spirituality and Science at the beginning of this module. Introduce the issue of genetic engineering then get the group to look at the following questions:

In what ways does genetic engineering affect my life at the moment? Is this positive or negative?

In what ways might genetic engineering affect my life in the future? Is this a positive or a frightening prospect?



Spirituality and Cyberspace

Purpose

For participants to explore the link between spirituality and cyberspace.

Materials needed

Internet access (optional)

What to do

Ask participants the following questions:

1. Who has Internet access?
2. How do you feel about access to information?
3. How does it feel not to have access to information?
4. Do you believe that everything you read on the Internet is true? How can you validate this?
5. If there is access to the Internet, take the opportunity for someone in the group to show others how it works.