Science and Religion -Isn't religion just old hat in a scientific age?

Introduction: Who needs religion in an age of science? Isn't religion simply a product of superstition given birth in an age when natural phenomena led to terror and where sickness, poor harvests and other factors then beyond human control led people to look for an answer by creating a need for God? Those who hold such a view declare that religion prays upon the worst fears of the human psyche; it is no longer required for now we understand how the world truly works. Science replaces Religion.

There are many who would say .. just that.

Facing the Challenge: Atheism is not new. In the past many atheists would respectfully debate with those who were believers in God. More recently a much more aggressive atheism has emerged. The new atheists see Religion and in particular belief in God as a dangerous evil and one that needs to eliminated.

John Lennon's song 'Imagine' assumed that if only we can remove religion and God then the world could be at peace and one. The message of the song is that God is to blame for all the ills of the world. Get rid of religion and all will be well.

Steven Weinberg – Nobel Prize winner. "Religion is an insult to human dignity. Without it you would have good people doing good things and evil people doing evil things. But for good people to do evil things, that takes religion."

Richard Dawkins: The Blind Watchmaker. ' "In a universe of blind physical forces and genetic replication, some people are going to get hurt, other people are going to get lucky, and you won't find any rhyme or reason in it, nor any justice. The universe we observe has precisely the properties we should expect if there is at bottom, no design, no purpose, no evil and no good, nothing but blind pitiless indifference… DNA neither knows nor cares, DNA just is and we dance to its tune.

For these atheists. Religion and belief in God is a pernicious delusion (defined as a pathological sickness); it is an evil to be eradicated and an ignorance to be challenged.

Many are troubled by this and not equipped to address or consider these matters carefully. With the rapid advances in global communications and artificial intelligence… what does it mean to be human? How do we define and understand identity? Does science have all the answers?

Where might we begin?

- Not all science is good science and not all religion is good religion. Science has made many mistakes and there is clear evidence of where it has failed and brought harm. There has, at times been a dogmatic imposing culture in certain scientific circles that has blurred political engineering, oppressive power plays with true science. What good science must defend is a proper adherence to the scientific method namely the pursuit of truth by repeatable experiment and mathematical analysis. True scientists always recognise that their results are provisional. They know well that you can never say 'science tells us' as if that were

absolute and fixed truth for all time. Science deals in models and experiments. The models and theories set out are always open to challenge, modification and development. Just think of the massive shift from Newtonian understandings to Quantum Physics. Good science always has a humility not seen in the kind of statements made by the new Atheists.

- Belief in Zeus or Apollo or some other gods could be called religion but not a religion that any would think as credible. There is a sad record of violence and atrocity that has been done in the name of religion down the ages and still is present in our world today. Again unacceptable. But a moment's thought will indicate that many would not wish to clump together for example the pacifist Amish with those who actively pursue violent religious extremism.

  Note: There is good and bad science and there is good and bad religion.

- For the purposes of this workshop I wish to focus on a belief in the God who is revealed in the Scriptures and supremely understood in the person of Jesus Christ. Is that belief old hat in a scientific age? I firmly believe that it is not.

Many Scientists are convinced that belief in God and science are compatible.

There is a common misconception that all scientists are atheists but that couldn't be further from the truth. While studies have found that scientists tend to be much less religious than the general public, a survey conducted by the Pew Research Centre for the People & The Press found that just over half of scientists (51%) believe in some form of deity or higher power; specifically, 33% of scientists say they believe in God. Some of the greatest Nobel laureates and pioneers in science believed in God. Here are some famous scientists who fall into this category.

Some Famous Scientists past and present:

Francis S. Collins, director of the Human Genome Project, the world's largest collaborative biological project, is a scientist and believer and finds no conflict between those worlds. However, the former atheist didn't always embrace these perspectives. It wasn't until he went to medical school and encountered life and death issues at the bedside of his patients where he was constantly challenged with the question "what do you believe, doctor?" that he began searching for those answers. Through that journey, he found Jesus Christ. Collins has led a consortium of scientists to read out the 3.1 billion letters of the human genome, our own DNA instruction book. As a believer, Collins said he sees DNA as "the information of all living things, as God's language, and the elegance and complexity of our own.

Russel Stannard (85) is a retired high-energy particle physicist, who was born in London, England, on 24 December 1931. He currently holds the position of Professor Emeritus of Physics at the Open University. In 1986, he was awarded the Templeton Prize for 'significant contributions to the field of spiritual values; in particular for contributions to greater understanding of science and religion'. He was awarded the OBE for 'contributions to physics, the Open University, and the popularisation of science' (1998) and the Bragg Medal and Prize of the Institute of Physics for 'distinguished contributions to the teaching of physics' (1999).Stannard is also a sculptor; two of his pieces were until recently on display in the main quadrangle of the Open University site at Milton Keynes. In 2010, he helmed a series of ten short programmes collectively entitled "Boundaries of the knowable", dealing with subjects from both scientific and philosophical perspectives, ranging from

the nature of consciousness, the nature of matter, space and time, the wave-particle duality of matter, the (alleged) existence of extra-terrestrial life and the question of "What caused the Big Bang?". **Quote:** Science is not an obstacle to religious belief. Much of science is as irrelevant to religious belief as it is irrelevant to the likes of music or poetry. Science cannot, for example, account for the resurrection. Science supports religion but not in the sense that you look to science for proof of God. There are interpretations of the Bible which are completely consistent with modern science.

Rosalind Picard. Professor of Media Arts and science MIT. Raise as an atheist converted to Christianity as a young adult. She believes DNA too complex to have arisen through purely random chance.

Alister McGrath Everyone needs help when thinking through complicated questions. I arrived at Oxford University to study chemistry in October 1971. My wrestling with the complexities of quantum theory in my first term at Oxford was supplemented by a perhaps greater struggle. How could I reconcile my discovery of the intellectual vibrancy of the Christian faith with my love for the natural sciences? Would I have to compartmentalize my mind, holding them apart as strangers and possibly even enemies? I knew I could not tolerate such a dichotomization of my life of the mind. But what if it were the only option? What would I do then?

As it happened, I found someone who had wrestled with those questions long before me and worked out some sensible answers. Charles Coulson was not only Oxford's Professor of Theoretical Chemistry; he was also a fellow of Wadham College – the college at which I was an undergraduate. As he was a well known Methodist lay preacher, he occasionally preached in the college chapel. At some point around 1973 I heard him preach on how he held his scientific and religious commitments together and why the idea of a 'God of the gaps' was to be rejected. I spoke to him afterwards and outlined my fears about the tensions between my faith and science. Our conversation lasted no more than ten minutes. Yet in that brief time Coulson helped me grasp the idea of the fundamental coherence of science and faith, which remains with me to this day…

John Lennox. Emeritus professor of mathematics in the University of Oxford and a leading figure in respect of the philosophy of science. He writes beautifully as to how to be both a Christian and a scientist. His books are well worth a read.

C S Lewis: (1898-1963) Although professor of English. Lewis was an excellent philosopher. In the realm of naturalism (reductionism) versus supernaturalism (an open universe) he gives one of the most cogent defences in his book "Miracles." He further gives an elegant version of human development and the fall in "The Problem of Pain."

Rene Descartes (1596-1650) Recognized as the father of modern philosophy, the French mathematician and scientist was a devout Roman Catholic until his passing, and along with Sir Francis Bacon was comparatively more devout than the average scientist for their era. He believed in systems in which God was important, even central to his philosophy. He was passionate about discovering the truth of God.

Johannes Kepler (1571-1630) The brilliant mathematician and one of the greatest astronomers could not deny God or his power, quoted saying "God is great. Great is his power, infinite his wisdom. Praise him, heaven and earth, sun, moon, and stars in your own language. My Lord and my

Creator. I would like to proclaim the magnificence of your works to men to the extent that my limited intelligence can understand." He was a practicing Lutheran, who also believed space and the heavenly bodies reveal the Holy Trinity. **Quote:** Kepler: I am just thinking God's thoughts after him

Albert Einstein, (1879-1955) one of the most highly recognized and revered scientists of the twentieth century believed in religion. The founder of modern physics and Nobel laureate recognized the impossibility of a non-created university, quoted saying "Everyone who is seriously committed to the cultivation of science becomes convinced that in all the laws of the universe is manifest a spirit vastly superior to man, and to which we with our powers must feel humble." Another famous quote of his was "Science without religion is lame, religion without science is blind." **Quote:** Albert Einstein: The Lord God is subtle but malicious he is not.

Charles Darwin (1809-1882) "I have never denied the existence of God. I think the theory of evolution is fully compatible with faith in God. I think the greatest argument for the existence in God is the impossibility of demonstrating and understanding that the immense universe, sublime above all measure, and man were the result of chance."

Sir Francis Bacon (1561-1627) "It is true, that a little philosophy inclineth man's mind to atheism, but depth philosophy bringeth men's minds to religion; for while the mind of man looketh upon second causes scattered, it may sometimes rest in them and go no further."

Sir Isaac Newton (1543-1727) The founder of classical theoretical physics is known for his genius in the world of optics, mechanics and mathematics. But what many people don't know is that he was devoutly religious and did a considerable amount of work in biblical numerology, drawing a connection between numbers in understanding God's plan for history from the Bible. He is quoted saying, "What we know is a drop, what we do not know is a vast ocean. The admirable arrangement and harmony of the universe could only have come from the plan of an omniscient and omnipotent being."

Tackling the New atheists on their own arguments:

Science is based on evidence. So lets look at the criticisms and then the evidence.

<u>Criticism 1.</u> Religion is a dying breed of person. Where modernity takes hold religion and belief in God falls away. Actually the opposite has been found in research.

Sunday Times (Jan2:2011) Atheists a dying breed as nature favours the faithful.

Michael Blumer meta study on reproductive advantage found that the religious reproduce at a value of 2.5 sustainable whereas the non religious are at 1.7 below sustainability.

<u>Criticism 2.</u> Religion is a delusion and pernicious. (Dawkins). Delusion is a psychiatric term. Dawkins contention is that encouraging people to hold to religious belief encourages them to a pathology that is in effect a psychiatric illness.

Evidence: The American Journal of Public Health (a meta analysis).

In a majority of studies, religion correlated with well being, happiness, life satisfaction, hope and optimism, purpose, higher self esteem, better adaptation to bereavement, greater social support, lower rates of depression and faster rates of recovery.

Professor Andrew Simms retired President of the Royal College of Psychiatry: The advantageous effects of religion and spirituality is one of the best kept secrets in the psychiatry and medicine generally.

Criticism3. Weinberg's criticism that religion is responsible for good people doing evil. Without religion good people would do good anyway.

Again where is the evidence. The great philosopher Dostoevsky wrote: If God does not exist everything is permissible.

What Dostoevsky is pointing to is precisely what Dawkins says. No God then the universe is blind. You are either lucky or not it is blind chance. This is the end of morality. A universe without God contains power but no purpose. Why cry immoral then and why care?

It is a travesty that evil has been perpetrated in the name of religion. That is a travesty and totally opposed to the Jesus who said put away the sword. Look at all the good inspired and energised by religion. Our great universities, hospitals, schools all have religion to thank. So much of the good order of our society is Judeo-Christian in roots.

But what about atheism – do people do good anyway? Examine Lenin, Stalin, Mao, Polpot and their regimes. Of the 100 million who died in conflicts in the 20 century far more are attributed to Atheism than other causes.

Holding Together Science and Faith in God: some important categories.

- **How and Why.** It is a simple yet important piece of understanding to separate how questions and why questions. The first deals with materials and processes the second with purpose and meaning.

  Science deals with How and not Why. Take the example of a kettle boiling. The Science is to do with the molecular structure of H2O and what Chemists understand a valency and molecular structure. Physics will describe how energy when put into water by heating turns from one form to another and the latent heat of vaporisation allows the kettle to boil.

  The Why question is of a totally different order. It is about someone wanting a cup of coffee or tea. How the kettle boils water and why are related but different orders of knowledge. The first is mechanics the second is meaning. To confuse them is what the philosophers call a category error. Science deals with the first religion with the second.
- **Cause and effect:** Science is clear that there is no such thing as an uncaused cause. The principle that all scientists uphold is: The uniformity of natural causes in a system. The big question is as to whether that system is open or closed. To use an analogy; if the universe is a system described as a box of 6 sides the question is whether there is a lid or not. If it is a closed system then there is no possibility of intervention or miracle. That would not necessarily exclude the idea of God but it would be a God who is completely other. (Deism). If the belief is in a universe of natural cause in an open system then divine intervention is possible. The fact is that science cannot prove or disprove this. That everything has a causality is accepted by all but as to where every cause arises is a matter other than science

can give. Evidence would come from other sources. So take the Resurrection of Jesus from the dead. Evidence here is of an Historical and not Scientific basis. Science cannot affirm or deny the possibility of an open universe or the uniformity of natural causes in an open system.

- **Necessary and Sufficient; Nothing But (tery):** This is the argument of those who hold to a reductionist understanding of the universe. The basic concept is that you must reduce whatever you are examining to its constituent parts. However complex it appears it is in the end 'nothing but' an elegant or sophisticated arrangement of its parts. It can be nothing more. For the physicist then the universe is in essence a complex arrangement of Time + Chance +Energy. For the reductionist biologist therefore we are nothing but a sophisticated complexity of DNA and cellular biology.

  The force of the argument is significant. What reductionists point out and correctly is that as systems become more complex they develop in that complexity new levels of function and substance. What are called emergent (additional) properties. What they wish to propose is that our human ability to think, develop self-consciousness, language, art and morality are complex emergent properties noting more. In other words reductionists claim that a total explanation of human love, feeling, morality and social living can be derived and explained simply from the fundamental elements of what we consist and the development of emergent properties.

  In response, what has not helped in the past has been a kind of God of the gaps reply. Such answers have focused on what is yet unknown and suggested therefore we still need God. As the gaps close so does the necessity for God.

  Instead what is important in challenging the reductionists is to be clear where we agree. What is describe as emergent properties is fundamentally sound. What is not made clear is the difference between what can best be described as *necessary factors and sufficient factors.* The reductionists have given us the necessary factors. We should agree not dispute these. What they have not shown is whether they have provided sufficient answers for a satisfactory understanding of ultimate meaning. In other words all that is required for the thing to be as it is.

  An analogy. Language is made up of basic building blocks. They are called letters and an alphabet. A word is a combination of letters with an emergent property in that the word has a meaning that the letters alone do not. Place words into a sentence and again we have an emergent property for the sentence means more than the individual words. The sum of the words gives us a level of meaning that the words alone do not. Then put sentences into a poem or novel each with separate chapters and again we create new levels and emergent properties. What is important here is a development of the difference between the how and the why. How letters, words, sentences work is what the scientists are describing. What they have not included is the author. Meaning if it is 'more than' and not 'nothing but' complexity requires a separate and prior source. Science cannot prove or disprove which is the best understanding. Is the necessary of science the sufficient also or does sufficient require another completely separate dimension. Both are positions of faith. However true

meaning and purpose as classically understood cannot be derived from reductionism. The reductionists are however in the end close to the understandings of the author Arthur Koestler who wrote "The Ghost in the Machine". It is in the end a choice between being made in the image of God or dancing to the tune of DNA in a universe of blind chance where all our senses of fairness and justice, meaning, love and purpose are at odds with a silent, blind, cruel and purposeless universe. We are a cruel joke in a chance universe.

- **Randomness and Design:** This pair of terms sit closely with concerns about creation and evolution. If the universe is fundamentally random is there any place for design? Again since Darwin most biologists have recognised that genes mutate on a random basis. Some have argued that the randomness of the universe from subatomic particle movements to gene mutation and selection cannot allow for the religious or God because the randomness bears witness to processes devoid of what would commonly be recognised as a plan.

The whole argument rests on an understanding that these two categories are mutually exclusive. However some careful exploration reveals that they are not quite as one might think. Chemists spend a good deal of their lives working with chemical equations. They can show from repeated experiment how elements combine to make compounds and how those compounds develop characteristics distinct from the elements of which they are made. There is at the macro level well defined rules and structure. At the micro particle level the movements are random. Any one elemental particle at any one moment can and will move in a random fashion. However the overall effect is something other. To be a bit more precise the random movements if plotted mathematically sit under a bell shaped curve. Within what the mathematicians describe as mean and standard deviations all the particles and all the random movements combine to produce a definable and predictable pattern. Simply what appears as chaotic chance at the micro level becomes predicable order at the macro level.

Perhaps a more recognisable analogy can be given. Roulette is a game of chance. Every time the wheel spins and the ball rolls it is a matter of chance on which number the ball settles. That is the micro level. At the macro level given the size of the bets and the numbers playing the banker (casino owner) within a similar bell curve can be sure of their profits. The banker always wins. So a casino owner setting up a business can design that business to deliver predictable profits. The ultimate aims are secure. The individual turns of the wheel are chance.

A second analogy comes from the world of code breaking. In mathematics there are a number of tests that can be done for randomness. If you give a good mathematician a set of numbers they can usually find the order and patterns that underlie them. However in code breaking the mathematicians have developed what are formula called algorithms that can generate such long sequences of numbers that every test for randomness shows them to be random. However they are the product of a design and formula. Randomness exits in our world. Science recognises it and seeks to penetrate its mysteries. Again what science cannot prove is that because there is randomness there is no design or purpose. That is statement of speculation.

Conclusion:

Is religion old hat in a scientific age? Some would seek to persuade you that it is. However there is much to give confidence that it is as relevant and important now as ever. A careful examination of the evidence reveals that atheism is ironically as much a faith position as belief in God.

1. The arguments of the new atheists are on examination not born out by the evidence.
2. There are many credible scientists past and present who see no contradiction between their faith in God and their work as a scientist.
3. The four significant categories examined here in relation to science far from disproving religion give ample space to see how the two are compatible.

A significant question is: which answers make the best sense of the whole?

Knowledge is essential in making any judgment. How do we know what we know?

Science is based on a principle of trial and error. It relies on hypothesis, experiment, repeatable results. Its conclusions are always provisional. Some of course have more certainty that others.

History on the other hand basis its knowledge of what is true on the accuracy of eye witness accounts. If science relies on repeatability History is the opposite. However historical truth is important.

For the Christian there is a third level of truth. It is revelation. This is an understanding that God speaks truly if not exhaustively in and through certain people, his covenant community and supremely in the person of Jesus Christ. Scripture is the repository of that truth in the written word.

Someone explained to me that a satnav uses at least three satellites to get a true bearing. What makes best sense of my needs, the human condition and our understanding of the purpose of life? Three lines of truth can give us a true bearing. Science, History and Revelation. They do not fundamentally disagree. Indeed if one is willing they intersect and give a location. Together they open up the possibility of confidence and assurance like no other that the God of the Bible and the revelation of the scriptures and the witness of history all point to one conclusion. That is that we are made in the image of God, that our sense of the numinous and the transcendent is not an illusion but a God given part of our creation. Our human intellect and consciousness and moral sense are real because God is real and moral. We are not ghosts in a machine.