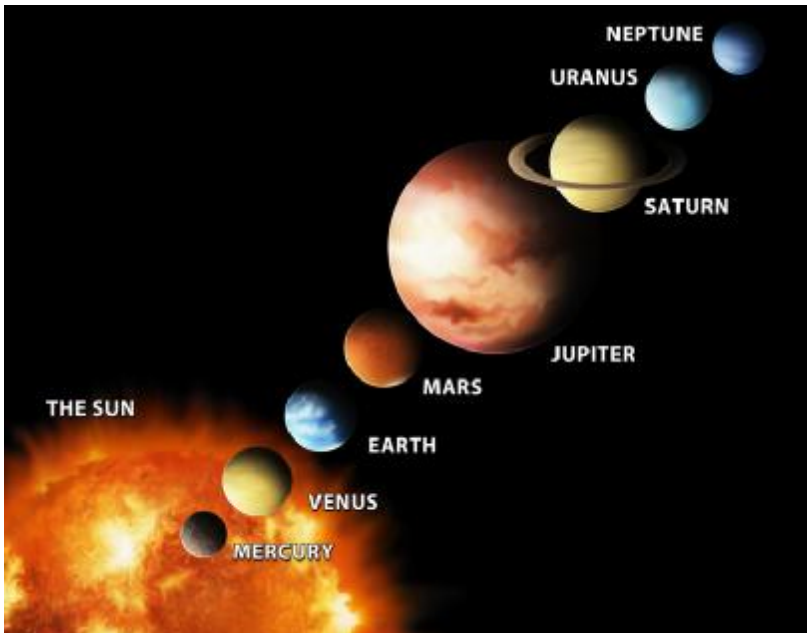




Daylight

Origins Science for Catholics



No 42

October 2011

God created the whole world, visible and invisible, material and spiritual, out of nothing by His almighty will. His almighty power is manifested to us in creation. By His word, that is by His will, He called into existence the earth, the moon, and the whole, to us immeasurable universe, with its millions and millions of heavenly bodies. “God spoke, and they were made; He commanded, and they were created.” (Ps. 32, 9)

Knecht, F.J., *A Practical Commentary on Holy Scripture*, Herder (1910), p.6

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AIMS

To inform Catholics and others of the scientific evidence supporting Special Creation as opposed to Evolution, and to show that the true discoveries of Science are in conformity with Catholic doctrines on Origins.

HISTORY

Daylight was founded in 1977 as the newsletter of the *Counter Evolution Group* by John G. Campbell (d. 1983), with support from the current Editor.

The venture was continued in 1987 as the Newsletter of CESHE:UK.

In 1991, *Daylight* was re-launched in the form of a magazine.

Daylight Origins Society is a non-profit educational organisation funded by subscriptions, donations and sales of publications.

ACTIVITIES

- ✓ Publishes the periodical *Daylight* for subscribers in 17 countries.
- ✓ Operates a website at www.daylightorigins.com
- ✓ Publishes and distributes pamphlets on Origins issues.
- ✓ Provides mail-order service for literature and audio-visual material.
- ✓ Promotes links with other Catholic Origins groups worldwide

Editor & Secretary: Anthony Nevard

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EDITORIAL

So, for everyone who has been looking for the answer to Life, the Universe and Everything, here it is – ‘Number forty-two’! However, unlike the inquirers in the fictional *Hitchhiker’s Guide to the Galaxy*, this issue of *Daylight* has not been the unexpected fruit of 7.5m years of ponderings by the giant computer ‘Deep Thought’ (though admittedly appearing a little later than hoped). Prior to the momentous event of revealing the answer, writer Douglas Adams gave the story’s computer the warning line: “*You’re really not going to like it.*” I hope I may predict a more positive prognosis for the reactions of our readership to the articles herein.

Adams was born in Cambridge, England in 1952 and stood out at Brentwood School for his early story-telling ability and for his height (6 feet at 12 years old). Although brought up as a Christian, Adams reported that he lost his faith at 18 as he became unconvinced that organised religion could provide valid answers to his questions. He took a BA in English Literature at Cambridge, where had begun acting and writing scripts for revues, and later for some comedy radio and TV shows. It was in 1977 that Adams came up with the ‘H2G2’ concept (as *Hitchhiker etc.* has become known to its fans); he claimed the title came to him while lying drunk in a field in Austria looking at the stars. Originating as a BBC radio series, it developed a cult following and later spawned novels, a TV series and a film. Despite his wit and talent, Adams had

periods of loss of confidence and ‘writer’s block’, struggling to maintain the output demanded of him. I liked his quip: “I love deadlines. I love the whooshing noise they make as they go by.”¹

Over his productive years, Adams had also been absorbing ideas that would help to fuel his science fictional fantasies:

“Sometime around my early thirties I stumbled upon evolutionary biology, particularly in the form of Richard Dawkins’s books *The Selfish Gene* and then *The Blind Watchmaker* and suddenly (on, I think the second reading of *The Selfish Gene*) it all fell into place. It was a concept of such stunning simplicity, but it gave rise, naturally, to all of the infinite and baffling complexity of life.”²

Adams described himself as ‘a radical atheist’ but he remained fascinated by religion and its effects on human affairs. He was an enthusiastic promoter of computers and the internet, and an environmental activist, supporting the extension of moral rights to the great apes. He died at 49 in California of a heart attack on 11 May 2001. Richard Dawkins dedicated his book *The God Delusion* [2006] to him; Adams was also eulogised by the actor Stephen Fry.

Also back in 1977, a very different experience was taking place in Scotland to a (sober) Catholic named John Campbell. Rather than fantasising about galaxies, he had been looking at the state of faith and practice apparent in the Catholic Church and came to a much more serious conclusion. He saw that a major contributor to moral disorder was the practical abandonment of the traditional doctrines of Creation, Original Sin and the historical truth of Genesis; this was a direct consequence of the uncritical (and false) belief by the vast majority of priests and teachers that the Theory of Evolution was an established scientific fact. With the aim of informing and activating Catholics on this error, Campbell started his ‘*Counter Evolution Group*’ with the periodical newsletter he named *Daylight*. Following the issue of several informative publications and after gaining more supporters, he died in 1983, having in effect passed the baton to ‘yours truly’, and in Autumn 1991 *Daylight* was re-launched in its current format.

¹ Adams, Douglas (2003). Geoffrey Perkins (ed.), Additional Material by M. J. Simpson. ed. *The Hitchhiker's Guide to the Galaxy: The Original Radio Scripts* (25th Anniversary Edition ed.). Pan Books, p. 236.

² http://www.atheists.org/Interview%3A_Douglas_Adams

It can seem plausible to argue that Darwinian selection might lead, over a very long time, to speciation and diversification beyond the micro-evolutionary level, and even account for extinction of organisms now seen only as fossils. However, it seems to me very unreasonable to extend this idea to explain two key facts – the uniqueness of our Earth in its suitability for life, and the unique physical and spiritual nature of Man. The study of our planet provides much evidence that it is the only place in the universe which is supremely suitable for human life. Even Wallace, self-styled “advocate of pure Darwinism”³, agreed that, despite his conviction that the physical origin of Man was from higher primates, his moral and intellectual features had a spiritual origin. Incidentally, he based his position on such arguments as: the anatomical similarities of the human body to other mammals and apes (undeniable); vestigial organs (since discredited); similarities of embryos (since discredited); fossil remains (disputed); and the origin of races (with racist overtones). Wallace backed away from concluding that Darwinism could wholly account for man, which implied that even he believed in some sort of deistic – or theistic – evolution.

Attempts at a compromise between evolution and Christianity have gained pace over recent years. “Founded in 2007 to serve as a ‘mediator’ between evolution and biblical Christianity, BioLogos has become the leading advocate of theistic (‘God-directed’) evolution in our generation.”⁴ The review in this issue of Francis Collins book *The Language of God* expounds some key problems with theistic evolution, echoing some similar objections we have raised in the past to the position adopted by the Catholic ‘Faith Movement’.

No such compromise would be needed if the Earth were in fact created just a few thousand years ago, or if there had been a global flood to account for the fossils. Could the ‘millions of years’ scenario be untrue? Should we be more open to accepting recorded history from eye-witnesses in ancient documents as likely to be factual accounts, rather than thinking of them as more primitive and prone to error? As Catholics, we must make our conclusions not just on the weight of scientific or scholarly debate, but primarily in the light of the Church’s dogmatic teaching, including how we interpret the scriptures – hence the extract included in this issue of the teaching of Pope St Pius X on the historical accuracy of Genesis – which tells us with divine authority what we really need to know about ‘Life, the Universe and Everything.’

³ Wallace, A. R., *Darwinism*, Macmillan 1889, p. viii.

⁴ See *Answers*, Vol. 6 No.4, Oct-Dec 2011, pp. 39-42 & back cover.

The Earth – Created for Man

Anthony Nevard

For I will behold thy heavens, the works of thy fingers: the moon and the stars which thou hast founded. What is man that thou art mindful of him? Or the son of man, that thou visitest him?

Thou hast made him a little lower than the angels: thou hast crowned him with glory and honour: and has set him over the works of thy hands... Ps 8, 4-7

Is life as we know it unique to our planet Earth? The hypothesis that living organisms exist, or have existed, elsewhere in the universe rests on the assumption that there are other places in which conditions allow for life to survive. We know a great deal about what is needed for plants and animals to operate, grow and reproduce. Advances in astronomy have led scientists to speculate on the possibility of life forms outside our solar system – or even our galaxy.



Astrobiology is the study of the origin, evolution, distribution and future of life in the universe. This encompasses the search for habitable environments in our Solar System and habitable planets outside our Solar System, the search for evidence of pre-biotic chemistry, laboratory and field research into the origins and early evolution of life on Earth, and studies of the potential for life to adapt to challenges on Earth and in outer space.¹

Recent studies focused on the range of living organisms ('extremophiles') able to survive in the harshest habitats on earth, such as high pressures in the ocean deeps, high salinities and acidities, and temperature extremes, have revealed a previously unrecognised biodiversity of adaptations. These have fostered ideas of complex chemicals arising on distant planets over millions of years and evolving into life forms which might be sufficiently advanced to be able to send communications to us on Earth; hence the conviction that the Search for Extra-Terrestrial Intelligence (SETI) project has a feasible chance of not being a huge waste of time and money. Because, of course, it must be admitted that,

¹ *Astrobiology*, Wikipedia, www.wikipedia.org

to our knowledge, “Earth is the only place in the universe known to harbour life.”² Despite much research directed at instilling the spark of life into inert chemicals, no success has yet been claimed. Yet it is still widely believed that this exceedingly improbable event could happen by chance, given enough time: as Richard Dawkins avers, “...however improbable the origin of life might be, we know it happened on Earth because we are here.”³

From ancient Greek times until the work of Pasteur in the 1850s, the idea of spontaneous generation provided the materialistic solution to the mystery of life. The acceptance of evolution allowed these scientists to displace the origin of living matter to the distant and unobservable past where physical conditions were supposed to have been vastly different from those we can see today. Henry Harris, in his book on the history of these ideas, states: “They [modern scientists] envisage ... an extremely gradual process stretching over aeons of geological time and subject to the continuous pressure of Darwinian natural selection. This view of the origin of life has little in common with the historical concept that we have chosen to call spontaneous generation. Indeed the only important similarity between the two is that neither requires the intervention of the supernatural.”⁴ Some philosophers have proposed that the changes and development of living forms over time reflect the existence of a vital urge or impetus in nature, called by H. Bergson in his book *Creative Evolution* [1907] the *élan vital*, by G.B. Shaw in *Man and Superman* [1903] ‘the Life Force’, by Fr Teilhard de Chardin [1959] the ‘Law of recurrence of complexity-consciousness’, and by Fr E. Holloway in *Catholicism: a New Synthesis* [1969] the ‘Unity-Law of Control and Direction’. None of these speculations has found favour in the scientific establishment, yet no-one has proved empirically that life has ever been created either by very clever and controlled experiments or by a succession of chance chemical events. Nor has anyone caused life to return to a deceased living being without the aid of what we would believe to be supernatural intervention (a miracle), despite the dead organism containing a perfect arrangement and placing of all the simple and complex chemical compounds (e.g. proteins, enzymes, nucleic acids) known to have just previously shown all the characteristics of life! But in addition it is essential for the maintenance of life to have the external physical and chemical conditions only found on Earth.

² Astrobiology, *ibid*.

³ Dawkins, R. *The God Delusion*, Transworld Publishers, 2007, p.165.

⁴ Harris, H., *Things Come to Life*, Oxford University Press, 2002, p. 158.

Developments in astronomy have led to the popular notion that light travelling over the vast distances over which we can view galaxies implies that we can ‘see back in time’ and so acquire direct evidence of our cosmological history. Speculation of whether or not we are ‘alone in the universe’ has exercised minds for millennia, and most of all since we have learned more about the nature of the planets in our solar system. The revolutionary ideas of Copernicus and Galileo in the 16th century, though not unknown in ancient Greece, appeared to demote the Earth from its central position in space. Darwinism displaced the span of human existence from the main event of material existence itself to a sliver of recency following vast ages of pre-historic time. Research in astronomy and relativity a century ago led to Einstein formulating his “cosmological principle” that the universe could be considered on a very large scale to have the same laws and be evenly distributed, so it would look much the same from wherever one viewed it. This idea has since been extended to form what is known as the **Copernican Principle**, or the Principle of Mediocrity or Principle of Indifference. This states that there is nothing special or exceptional about the time and place that Earth exists in the cosmos. As a scientific assumption, this has implications not just in astronomy or cosmology, but in physics and biology. But as a philosophical principle its metaphysical expression says that we are not here for a purpose and our presence in the cosmos has no significance. Given enough time, space and matter, anything is possible – or even inevitable. Clearly this appears to have become a foundational dogma of modern scientific naturalism. But this does not make it a fact - and it can be tested in terms of its predictions and expectations.

We can generally accept the idea that the physical laws and constants that apply on Earth, like those relating to the nature and behaviour of electromagnetic radiation, atoms and sub-atomic particles and forces, gravity, relativity and thermodynamics, also do so in the rest of the observable universe. Successful space missions have provided such confirmation, although ultimately we cannot prove any law by testing it under every conceivable set of conditions.



As it seems increasingly unlikely that any planet or moon in the solar system has the Earth-like conditions essential for life, attempts are being made to demonstrate the Copernican Principle in astronomy by discovering stars that have planets orbiting them which might also have these conditions. So what are the special characteristics of our planet Earth that may make it unique?

The Earth's position in space

Thanks to the space programs over the past 50 years, including the Mariner and Viking missions to Mars, and the Pioneer and Voyager probes to the outer planets, our solar system has undergone unprecedented detailed study, but this has failed to find anywhere with earth-like conditions. These must include suitable levels of temperature, gravity, light and chemical composition.



Water is an essential material for life, but its presence is no evidence for it. Could there be living organisms or fossils hidden in the icy surfaces of Mars or a moon of Jupiter? To have hope in finding such remains usually rests on the belief that life evolved there in the past.

Whatever may be speculated on the basis of wobbles in the movement of distant stars, the only star with a known system of planets is our solar system, in which Earth is the 'third rock from the Sun' and lies in the necessary 'habitable zone' that provides the narrow range of perfect conditions for life to exist. This has been nicknamed the 'Goldilocks zone' – not too hot, not too cold, but just right. This is the only place where water can exist in largely liquid form. This also requires our planet to be of a suitable size and density to exert the gravitational force needed to retain the atmosphere and seas. The Earth's revolution round the Sun needs to be almost circular so that the ideal conditions are maintained. This requires an appropriate ratio of the mass of the Earth and the Sun, so that the gravitational attractions and speed are balanced such that the Earth neither spirals inwards towards the Sun nor starts moving away from the Sun at a tangent. And the rotation of the Earth is essential if all parts are to be equally warmed and illuminated during the day/night cycle.⁵

Studies of stars and galaxies have shown that such conditions are very unlikely in other places in the cosmos. Our position between the spiral arms of the Milky Way provides a safe place from the activities of supernovae, star clusters and black holes. In addition, our Sun is quite unusual – it is a yellow dwarf, one of the most massive 10% of stars in the galaxy. The radiation it emits is ideal in wavelength and intensity for photosynthesis. If it were one of the 80% of red

⁵ For more details on the astronomical evidence, please see the bibliography.

dwarfs, the Earth would have to orbit much closer to maintain water as liquid. This would lead to a tidally locked state in which the Earth could not rotate, producing large temperature differences on the inner and outer sides of the Earth, and this would also much increase the danger from radiation from solar flares. It is also a very stable star, varying its light output by only 0.1% over an eleven-year sunspot cycle. Though about a million times as massive as the earth, the Sun is on average 93 million miles away from us, and we receive one two-billionth of its energy output.

The Earth and the Moon

The diameter of the Earth is about 8,000 miles. It has been estimated that a 10% reduction to 7,200 miles would result in a decrease in its gravity and consequently the loss of most of the atmosphere. Temperatures would fall to below 0°C over most of the globe. However, an increase of 10% to 8,800 miles would double the weight of the atmosphere, increase the volume of liquid water and probably flood the whole planet.



The rotation of the Earth not only produces the day and night cycle; it also causes winds and ocean currents which help to circulate the air and water in the seas which contribute to cloud formation and the water cycle. The tilt of 23° in the axis of the Earth results in the seasons as the angle of the Sun's rays change over the year in the Northern and Southern hemispheres. These changes are bound up with the life cycles of many thousands of species of plants and animals.

It was discovered in 1993 that the Moon's gravity has a stabilising effect on the tilt of the Earth and therefore the seasons. It also contributes 60% to the tides that help circulate nutrients and heat in the oceans. The phases of the Moon provide a measure of time over a 4-week cycle.



The mass ratio of the Moon-Earth pair is more than ten times greater than that for any other planet-satellite pair in the solar system. Also, the angular size of the Moon and Sun are almost equal, allowing for total solar eclipses (see back cover for more details).

The Composition of the Earth

Earthquakes, though they can be fearfully destructive, also provide insights through seismographs readings into the structure of the earth beneath us. This has produced much data relating to the existence and movements of tectonic plates in the earth's crust. This activity contributes to the carbon cycle which exchanges materials between the atmosphere, oceans and land. We also understand that the core of the Earth consists of a dynamo of moving liquid iron which creates the magnetic field. This creates the magnetosphere which protects the atmosphere from the effects of the solar wind, particles which could strip away water molecules and cosmic rays which can cause radiation damage to living things.

This protective action from the magnetic field is visible in the spectacular 'aurorae', typically seen in the regions 10 to 20° from the magnetic poles. The magnetic field gives a directional aid for us and migrating animals.



The habitable nature of the Earth is also seen in the resources and conditions it provides us for technological development. In this, the control of fire is a key factor in enabling provision of a basic energy source, from which came early technology in firing pottery and smelting ores to make metals. More advanced use of metals led to tools and machines that could enable the construction of bridges, dams, buildings, transportation etc.



The minerals of our planet provide materials for building (stone, lime, clay to make bricks) and for making a huge range of metals and alloys with properties suited to their uses. Polished stones and crystals of every colour can be used for adornment or valued as barter. The soil supplies elements needed for plants.

The industrial revolution that led to advanced technology was dependent on the availability of fuels – wood, coal, oil and gas – to power engines and make electricity. Now we have learned how to harness nuclear energy from uranium, and how to use silicon in semi-conductors for integrated circuitry in computers. For the burning of fuels to release this energy we need oxygen from the air.

The Atmosphere

Perhaps the feature of our Earth that we are most inclined to take for granted is the invisible and odourless air that surrounds us. We only think about it when its ideal state changes in its composition or motion and disturbs us. But our lives, and that of most organisms, depend upon it. The atmosphere on Earth is unique, consisting roughly of nitrogen (78%), oxygen (21%), argon (1%), carbon dioxide (0.04%), traces of the other rare gases, and a variable amount (about 1%) of water vapour.

The atmospheres of Venus and Mars are primarily composed of carbon dioxide, with small quantities of nitrogen, argon, oxygen and traces of other gases. Venus is surrounded by opaque clouds of sulphuric acid, which are blown around the planet at up to 200 mph. The low temperatures and higher gravity of the gas giants — Jupiter, Saturn, Uranus and Neptune — allow them to retain gases with low molecular masses, mainly hydrogen and helium. Jupiter has clouds of ammonia and no clear boundary between its atmosphere and its liquid interior. Most of the other bodies in the solar system have little or no atmosphere and could certainly not sustain life.

Nitrogen is a relatively unreactive gas so harmless to us unless we breathe it under increased pressure, as divers do – with the danger of the dissolved gas in the blood forming bubbles in their joints if they surface too quickly (“the bends”). It is however essential for absorption by nitrogen-fixing bacteria in soil that make nitrates in the nitrogen cycle on which plants depend for making proteins, from which we obtain amino-acids for our survival.

Oxygen is essential for most organisms that depend on aerobic respiration for releasing energy from food.



Falling atmospheric pressure at increased altitude halves the partial pressure of oxygen at 16,000 ft, where sustained survival is still possible, but it reduces to one third at the top of Everest – within the ‘death zone’. So it is possible to breathe, walk and survive in nearly all altitudes on the Earth’s surface. However, raised oxygen concentration or air pressure levels to twice normal values can also be toxic to us. The proportion of oxygen in air at sea level pressure is the optimum state for the human body.

Carbon Dioxide is essential for life as we know it – but only within a narrow range of concentrations. While animals constantly use up oxygen from the air, plants release it through photosynthesis, which is also dependent on the availability of water and a sufficient level of light of the correct wavelengths, which is absorbed by chlorophyll. In this process, plants absorb carbon dioxide from their surroundings (water or air), so playing an essential part in the cycling of carbon, the element of which organic chemicals (carbohydrates, fats, proteins, DNA, etc) are made. Local carbon dioxide levels in air can vary slightly, but around 1% CO₂ is likely to cause us discomfort, 2% has toxic effects and air supply above 4% is dangerous to animal life. For improving productivity, plant growers may raise CO₂ levels in greenhouses from the normal level (340 ppm) to about 1200 ppm, but this then reaches a saturation point and further increase is ineffective and uneconomic. However, in light but unventilated situations, photosynthesis may lower the local CO₂ level down to as low as 200 ppm, which will have a significant negative effect on the crop.⁶ So for plants to survive and prosper - and animals all depend on plants for food and oxygen - carbon dioxide must be present in the air at between **0.02% and 0.12%**. If we are expected to accept that scientific evidence for the rise in CO₂ levels could be a factor in increasing global warming, what about the implications of this data about the limits of photosynthesis that deny the possibility that the Earth could ever have had an atmosphere with a carbon dioxide outside of this very narrow range?

The light energies that are used in photosynthesis by plants are largely in the red and blue parts of the visible part of spectrum, which have wavelengths of 4,000 to 7,000 Å. [*] This range forms 40% of the energy emitted by the Sun. The atmosphere is transparent to radiation between 3,100 to 9,500 Å, and to radio waves. Photosynthetic reactions absolutely depend on such photon energies.

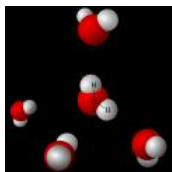


The range of electromagnetic radiation allowed through the atmosphere (and through water) is also perfect for our vision and communication systems, but excludes most of the harmful energies. This is a very tiny fraction of the wavelength range (from 10⁶ to 10⁻¹⁴ m). A consequence of this is that rainbows can only be observed on Earth. * [1 Ångstrom unit = 10⁻¹⁰ m]

⁶ Blom, T. J. et al, *Carbon Dioxide in Greenhouses – Factsheet*, Ontario Ministry of Agriculture, Food and Rural Affairs, (2002)

<http://www.omafra.gov.on.ca/english/crops/facts/00-077.htm>

Water is abundant on Earth but is in fact a remarkable chemical compound made from two elements. Each molecule consists of two hydrogen (H) atoms covalently bonded to one oxygen (O) atom, but owing to the arrangement of the electron orbitals in the oxygen, the molecule is not linear in shape.



Because oxygen has a higher electronegativity than hydrogen, it carries a small negative charge and the two hydrogen atoms are slightly positive it is said to be a polar molecule. Each water molecule can attract four other neighbouring molecules by 'hydrogen bonding', and this fact gives water its many unique properties.

Water is a liquid between 273°K [0°C] and 373°K [100°C] at sea level, yet it is composed of two gases with boiling points of only 20°K (H) and 90°K (O), giving water a Relative Molecular Mass of only 18 (H = 1, O = 16). This results from the strong attractive forces between water molecules.

Water is a very good solvent (*the universal solvent*). Substances that dissolve in water include salts, sugars, acids, alkalis, and some gases – especially oxygen and carbon dioxide. Some organic (complex carbon) substances do not mix well with water (e.g. fats and oils). Living matter needs to be permeable to many water-soluble chemicals, but must contain fats in cell membranes to maintain their integrity and resist auto-dissolution in water.

Water is transparent and colourless in the visible spectrum as ice, liquid and vapour. This is necessary for light to reach aquatic plants, and for vision. However, it absorbs infra-red radiation, has a high heat capacity, and high heat of vaporisation, giving a more stable climate and sea temperatures.



Water has its highest density at 4°C, below which it expands, so ice floats on water, so protecting life below. Colder water also contains more dissolved oxygen than warm water, so allowing respiration to continue below a frozen surface.

Water also has a high surface tension which can support small insects and high capillary forces that assist the flow of water in plant vascular systems. Nowhere else known can water exhibit its unique set of properties better than on Earth.

The Anthropic Principle

According to the Copernican Principle, we should not expect that our observations and scientific discoveries would have any significance that could relate to the fact that we are conscious beings who happen to exist in one particular place and time-period in the universe. But clearly they do. The unique conditions of Earth makes it appear as if this is a very special place designed (or evolved) to be just right for us, the conscious observers. In fact, even the fundamental physical constants of matter, space and time seem to have been finely tuned to allow life to come into being. In 1973, Brandon Carter invented the name ‘the Anthropic Principle’ for this philosophical argument. For some, this sums up the scientific evidence for their belief that the goal of creation was indeed mankind – it is what would be expected from an omnipotent loving Creator. Others like Dawkins have taken it as an inevitable complement of natural selection: “It [A.P.] provides a rational, design-free explanation for the fact that we find ourselves in a situation propitious to our existence.”⁷ For them, it’s just the result of another run of good luck. Maybe it happened in other places in the universe? Or maybe in other universes?

So why is it that those who would never deny that a buried pottery cup or an embossed coin must have been designed and made by a human mind, continue to invoke the most irrational speculations rather than admit that the unique characteristics of the Earth betoken a supernatural Designer?

“For the heart of these people is grown gross, and ... their eyes they have shut, lest perhaps ... they should be converted; and I should heal them” Acts, 28, 27.

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⁷ Dawkins, R. *The God Delusion*, p. 164

The Delusion of Millions of Years

Dr John Donnelly

When we read that “The dinosaurs died out 65 million years ago”, or that “The earth is 4.6 billion years old”, we need to ask if these mind-bogglingly long ages are real or merely a delusion? If they are a delusion, we should be able to discover where the deception is taking place.

To be genuine, they need to be the result of scientific measurement, but this is not possible, because there is no direct way of measuring the age of something. Nor can we conclude exactly when a past event happened, unless a witness accurately documented it. On the other hand, indirect evidence is subject to interpretation. For example, when in the 1700s James Hutton looked at the rocks at Siccar Point in Scotland, he saw no sign of a beginning, no prospect of an end, and so imagined millions of years were necessary for those rocks to form.

Mostly, the long ages tossed around these days are the result of similar imaginings by other people in what is called “uniformitarian” thinking—the idea that things have always gone on as they are now, without any unusual interruptions, i.e. long slow processes. This philosophy makes long periods of time necessary because, if there has been nothing unusual to disturb the normal patterns, the things we observe on the earth today must have taken a long time to appear. Also, if one has a view that evolution is true, then one is going to need billions of years to evolve the first life form or self-replicating system. Hence the billions of years estimates.



But what if there have been interruptions to normal processes? The Bible tells us that the Creator has worked outside normal processes in ‘acts of creation’ on several occasions to perform what are usually called “miracles”. These would result in a huge reduction in required time—the millions of assumed but imaginary years would disappear! What if there had been a global catastrophe like a global flood? It might create the huge amount of rock layers out there by way of hydrological sorting of sediments? What if man was specially created without the need for evolution from an ape-like ancestor? Millions of years would be done away with in one fell swoop.

With evolution, for example: the claim that all living things descended from one accidentally formed and self-replicating cell. If evolution really happened, it must have taken immense periods of time for the genetic experimental permutations and combinations the theory requires. However, if God created living things in all their basic variety in six days, as the Bible describes, then the long ages become totally unnecessary. Some minor changes may have occurred during those 6,000 years, but changes from one kind to another, (macroevolution) or from simple to complex, do not have to happen if the main kinds were created over a short time as the Bible indicates.¹



The question is simple: Can God create fully functioning living things, or can't He? After all, our increasing knowledge of the amazing workings of living cells and whole organisms, and that ingenious information storage system, DNA, all tell us that evolution, as commonly understood, is impossible because fully functioning cells are the only ones that will work, so the Bible account of instantaneous creation of fully functioning life appears more and more dependable as these scientific discoveries continue.

Illustration of some members of the insect Order Coleoptera (Beetles), of which there are at least 400,000 known species – the largest Order. (from Baron Cuvier, *The Animal Kingdom*, W. H. Allen & Co, 1893, p. 491.)

The big bang idea for the origin and development of the universe is popular today, but it is a theory that scientists are finding increasingly difficult to support with evidence.² It requires anything up to 20 billion years of imagined time to fulfil. But the Bible records that God produced all the matter in the universe, and formed it into the earth and all the heavenly bodies in just a few Earth days—practically instantaneous creation. Not even one year necessary!

Uniformitarian geology teaches that the rock layers we see today are the result of long ages of slow deposition following dawdling erosion. However, most of today's erosion and deposition agents are far too feeble to have performed such a huge task (e.g. the Colorado River in the Grand Canyon). But what of the

¹ See Jonathan Sarfati, *Refuting Evolution*, chapter 2, 2002; www.creation.com/refuting2

² See Williams, A. and Hartnett, J., *Dismantling the Big Bang*, Master Books, Arkansas, USA, 2005.

earth-covering Flood of Noah's time, during which the whole earth was re-surfaced, much as is also seriously suggested for the surface of Mars? Computer modelling and sedimentation experiments indicate that such a Flood could easily explain the rock layers. Water sorts out the sediments into neat layers: hydrologic sorting! Yet that Flood lasted only about a year, so once again, the millions of years are unnecessary, if the Bible is true.³

I visited the Grand Canyon in the summer and the guide there talked about great seas which had possibly created the huge hole in the ground that is the Grand Canyon. They know that the Colorado River alone could not have caused that big ditch! I thought that at least it's a start in that I've been talking about a flood for years and now, little by little, the view is changing as regards the Grand Canyon and its creation.



The secularist world view is actually heeding some aspects of the creation scientists' evaluation of catastrophism – a view which ultimately says that God sent the Flood as a warning and as a punishment for man's wicked behaviour on the earth at that time.

According to people who believe in evolution, man's history is one lasting a million years or so, including a long period as 'stone age cave men'. But there is no clear line of human progress in different parts of the world. Anthropologists have little idea where languages came from, and some people apparently still live 'in the stone age'.⁴



However, the biblical story of Babel explains the instantaneous origin of languages not much more than 4,000 years ago. This event, like the Flood, is confirmed by the traditions of various cultures around the world, including the Chinese, whose writing system and careful history match the Bible story, and even mirror biblical theology in their early culture.⁵

³ see *Millions of years are missing*, Creation 31(2):46–49; 2009 and www.creation.com/geology

⁴ *The Stone Age a figment of the imagination?* Creation 27(4):13, 2005; and www.creation.com/stone

⁵ see Thong, C.K., *Faith of our Fathers*, Campus Crusade Asia, 2007.

There is no need, then, for years of slow evolution of languages in isolated people groups, and no need to speculate about a long history of ‘cave men’ evolving into ‘modern man’. It is obvious that, as people spread from the rich culture and infrastructure of Babel and dispersed themselves across the world in their language groups, some could lose some skills and knowledge, and might become ‘cave men’ with primitive tools until they settled and re-built a culture with organisation, metallurgy, writing and so on. Again, the need for long ages evaporates if the Bible is true.

A legitimate question for those who are unconvinced about the Bible’s account of history is how the light from stars millions and even billions of light years away is visible here on earth. How could it get here in only 6,000 years or less from their creation, if Adam was able to see them?

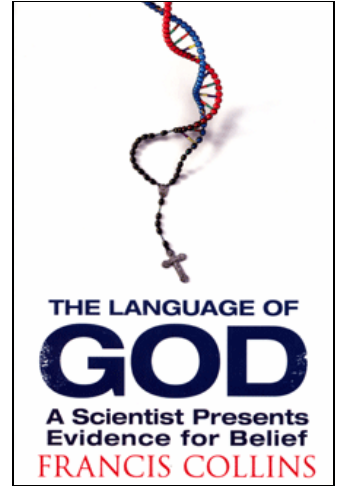
The answer is complicated, and still being investigated, but the Bible nevertheless gives us a clue—it says that God “stretched out the heavens”. This could be interpreted to mean that He created the stars close to us, and then stretched out space, buckling time in such a way that light covered the relatively short early distances in only a short period of earth time. Einstein’s Theory of Relativity explains how gravity and velocity warp time, and has been confirmed in many experiments. For example, a clock running at sea level will run slower than one several kilometres up in the mountains where gravity is weaker. A new theory, called “cosmological general relativity”, takes Einstein’s ideas a step further and applies them to the outer regions of space, in particular to the period of rapid acceleration during the “stretching out” of the fabric of the universe.⁶ So the processes of star formation, though they seem to take a long time by present earth clocks, would have occurred in such a way that we now see the leftovers of these processes in action in very distant stars.

Thus, millions and millions of years disappear. No fairy-tale! No deceptions! After all, they were only imaginary in the first place. So who needs them? No one - except those who refuse to believe the Word of the One who is outside of time: the God of the Bible. Atheist scientists need the millions of years in order to justify their preconceived and predetermined notions, but their presuppositions are based on evolutionism.

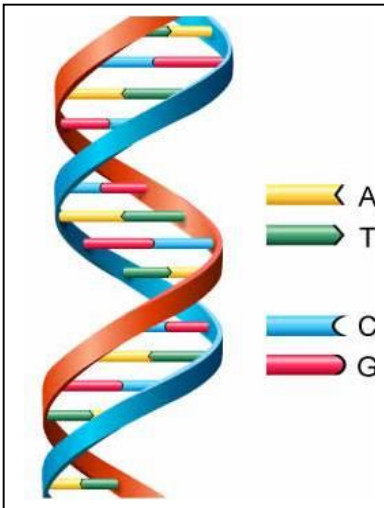
⁶ See Hartnett, J., *Starlight, Time and the New Physics*, Creation Book Publishers, www.creationbookpublishers.com, 2007. Also Humphreys, D.R., *New time dilation helps creation cosmology*, *Journal of Creation* 22(3):84–92, 2008; www.creation.com/timedilation

**A review of
'The Language of God'
by Gearóid Spáinneach**

The Language of God, by Francis Collins, is a popular book among many Christians today. In it, the author Francis Collins gives his understanding of the schismatic debate between faith & reason. He gives his own testimony about how he was an atheist and how he is now a believer in the Christian God. He is not a Catholic, despite the front cover illustration, and I took the impression from reading this book that his key turning point regarding belief in God was the moral law which is written in our hearts. That seemed to Collins to be the one area that science was still unable to explain, although that is not to say that there might be no naturalistic explanation to be found.



**A popular book
among Christians today**



**The Double Helix gene
structure**

Faith and Reason

Collins opines that there are certain questions that science cannot answer, such as: Why is there a universe? Why we have a moral law? He believes those questions ultimately can only be answered through the eyes of faith.

Francis Collins is head of The Human Genome Project and he is well qualified as a scientist in the field of biology and has an exceptional understanding of genetics. Often biological terms seem daunting to us, but thanks to Collins I as a layman could grasp the meaning of biological terms such as 'the Double Helix', DNA and RNA, very quickly and easily.



**Francis Collins - head of the
Human Genome Project**

Intelligent Design & Creationism

However, I have also read books from men of scientific backgrounds who would consider these matters from an Intelligent Designer (ID) or Young Earth Creationist (YEC) perspective. Francis sets out to show that there should be no division between faith and reason when it becomes to belief in God, so he discusses Intelligent Design and Creationism. In chapter 8 of his book he expounds creationism very well, at least in the 2nd paragraph of the subheading ‘Young Earth Creationism’. However, despite being familiar with the tenets of the movement, in the 1st paragraph he makes a fundamental error by writing:

“YEC advocates also believe that all species were created by individual acts of divine creation”¹. This is not the case. YEC advocates believe that *basic kinds* were separately brought into existence by acts of divine creation, and some of these kinds have since developed into modern species. Even as a layman, I can understand there is a real difference; we can accept that a Poodle and German Shepherd are breeds of dog that have been developed ultimately from the original wolf kind. Such varieties were not created by individual acts of creation; a poodle or German Shepherd did not exist on Day 6 of the creation week, whereas the wolf kind did. The wolf kind had, within the DNA sequence code, the potential to diversify, through processes of breeding and selection, into a Poodle, German Shepherd, or any modern breed of dog. But this is not explained in Collins’ book. Instead I had to look elsewhere for this simple explanation. Collins, then, fails to see this process of speciation, and he does not connect it with what he calls ‘junk DNA’ which appear to have no function. He quickly dismisses the YEC movement as fideism, which of course is opposed by the Catholic Church. Collins fails to give a fair hearing for the YECs. His short chapter on creationism is disappointing, because in the final pages, under the subheading ‘God as the Great Deceiver’², Collins makes a

¹ *The Language of God*, Francis Collins (London: Simon & Schuster UK Ltd; 2007) p.172

² *ibid*, p. 176-178

series of untrue statements regarding creationist belief, which can easily be verified. The key point in understanding the YEC philosophy is to realise that we look at the same scientific data, but look at it as it were through a different lens.

Collins should understand this because, as stated above, his 2nd paragraph displayed some level of familiarity with the movement. But instead he claims: “By any reasonable standard, Young Earth Creationism has reached a point of intellectual bankruptcy, both in its science and in its theology”.³ So for anyone who is not well versed in creationism, they would conclude from reading this that YEC advocates are stupid, plain & simple. Any attempts to try to persuade the reader otherwise may now become futile due to such false and pre-conceived notions. Sadly, Collins ends this particular chapter with a patronising plea to the Evangelical Church, to which he claims to belong:

“You are right to hold fast to the truths of the Bible;...you are right to hold fast to the certainty that the claims of atheistic materialism must be steadfastly resisted. But those battles cannot be won by attaching your position to a flawed foundation.”⁴ As a YEC supporter, I’m left in no doubt that Collins and I look at the world through two entirely different lenses.

Next comes a chapter on Intelligent Design, which starts off with much promise as Collins says; “From my perspective as a geneticist, a biologist, and a believer in God, this movement deserves serious consideration.”⁵ But this section of the book was particularly surprising. Collins quickly dismisses the ID movement as unscientific, including Michael Behe’s explanation of pre-loaded genes accounting for simple cells developing into more complex structures. Behe speaks of these pre-loaded genes as sleeping genes, and that to me sounds like the junk DNA that is baffling many scientists today. But Collins fails to see the connection, saying: “No primitive organism can be found today that contains this cache of genetic information for future use.” Maybe so, but what about junk DNA for more complex structures?



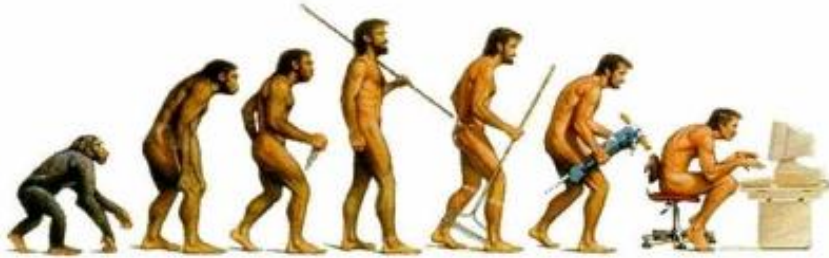
Michael Behe
(Intelligent Design
advocate)

³ *ibid*, p. 177

⁴ *ibid*, p. 178

⁵ *ibid*, p. 183

In an earlier chapter, ‘Deciphering God’s Instruction Book’, Collins states: “One surprise is just how little of the genome is actually used to code for protein... DNA used by those genes to code for protein adds up to a measly 1.5% of the total”.⁶



A satire of the iconic evolutionary paradigm illustration

Collins then gives a protein breakdown difference between man and other extant creatures, for example a chimpanzee, a dog and a chicken. A chimpanzee has 100% similarity with that of man, for a dog it is 99% similar, and for a chicken it’s 75%. But protein genes are only 1.5% of all gene types, and using this model you could convince a child that he is no different to a dog or chimp and similar to a chicken. However, when we look at what Collins terms ‘random DNA segments’ between genes we can see a clearer difference. Now a chimpanzee is 98% similar, a dog is 52%, and a chicken is a measly 4%.⁷ No one should be surprised that a chimpanzee and a man are so similar in structure. Dress a chimpanzee in a pair of jeans and a white shirt and it will look quite dapper. But give him a mobile phone and it’s doubtful he’ll have any idea as to what to do with it. This is because it is not a rational being.

Collins explains well the genome structure in his chapter ‘Life on Earth’. After illustrating the DNA structure, he then likens it to “an instructional script, a software program”.⁸ Later, he discusses cystic fibrosis, which he calls “the most common potentially fatal genetic disorder of northern Europeans”.⁹ Collins then says: “somewhere in the 3 billion letters of DNA code, at least one letter had gone wrong”.¹⁰

⁶ *ibid*, p. 124

⁷ *ibid*, p. 127

⁸ *ibid*, p. 102

⁹ *ibid*, p. 112

¹⁰ *ibid*, p. 113

After many years of searching, Collins and his team of scientists in 1989 located the cystic fibrosis gene on Chromosome 7, which he described as an un-chartered street map of genes. He states: “we and others were able to show that this mutation and other less common misspellings in the same gene... account for virtually all cases of the disease”.¹¹ Reasoning as a layman, it seems to me that Michael Behe, the ID advocate, has been vindicated here. Behe coined the phrase ‘irreducibly complex’. If the gene has even one misspelling in its instruction code, then the consequences are significantly bad, in this case giving rise to cystic fibrosis. Admittedly, Behe’s concept of irreducibly complex means it’s all or nothing, if one component is missing, then the mechanism fails. In this case however, a component is there, but it’s the wrong component. Regrettably, Collins does not see the design argument jumping out at him. Instead he discounts the ID movement as credible science.

Theistic Evolution

Collins sees theistic evolution as faith and science in harmony. He summarises these beliefs and makes it clear that it does not challenge Darwin’s theory of evolution. For Collins, this is a rational approach to harmonising faith and science. He gives it another name though and calls it ‘biologos’, because *bios* is the Greek word for life (the root word for biology) and *logos* is the Greek for word (as in the word of God). The term biologos, Collins says, “is not intended as a scientific theory”.¹² Instead it is, according to him, “by far the most scientifically consistent and spiritually satisfying of the alternatives”.¹³ But we should point out here, that Collins is not a theologian, he is a scientist in the field of biology. “Theistic Evolution [or ‘biologos’] is in reality a compromise position which seeks to accommodate faith with evolutionary beliefs”.¹⁴ An atheist is quite happy if you continue in your belief in God as long as you don’t challenge his cosy world view, his paradigm, namely Darwin’s theory of evolution. That is why Creationism and Intelligent Design are controversial; they challenge the atheist head on. But not only does Collins fall in with compromisers, he even mentions “that all members of our species have descended from a common set of founders, approximately 10,000 in number.”¹⁵

¹¹ *ibid*, p. 115

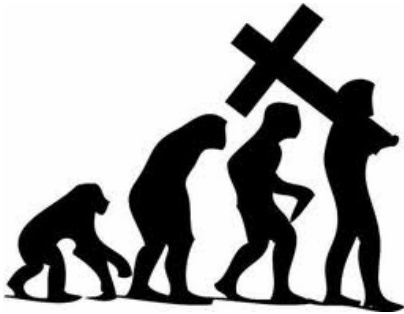
¹² *ibid*, p. 204

¹³ *ibid*, p. 210

¹⁴ *Creation Rediscovered*, Gerard J. Keane (Illinois: Tan Books & Publishers; 1999) p. 38

¹⁵ *The Language of God*, Francis Collins (London: Simon & Schuster UK Ltd; 2007) p.126

That last statement is in theological conflict with descent from two original humans, which is what a Catholic is supposed to believe. Biologos, then, does not harmonise science and faith. It does more harm than good. Does biologos help our understanding of Christ when he says “Have you not read that he who made them from the beginning...”¹⁶ Was Jesus misinformed? Could not the Pharisees have easily explained that the story of Adam and Eve is just a story to help simpletons understand how the world came to be?



Our Saviour Jesus Christ – the product of evolution?

Surely they could have caught Jesus off guard there had Darwin been alive to advocate his theory of evolution back then. This it seems is what Collins fails to realize about present day atheism. It is a movement that embraces Darwinian evolution so they can oppose any form of biblical literalism, openly deny the relevance of the Gospel, or enable them to pick and choose what is or is not morally acceptable.

Humani Generis

In conclusion, a statement from Pope Pius XII from his 1950 encyclical:

“If anyone examines the state of affairs outside the Christian fold, he will easily discover the principal trends that not a few learned men are following. Some imprudently and indiscreetly hold that evolution, which has not been fully proved even in the domain of natural sciences, explains the origin of all things, and audaciously support the monistic and pantheistic opinion that the world is in continual evolution”.¹⁷

What a message - and it is even more potent today than it was in 1950 in the light of the discoveries and arguments of ID and Creationism.

Note: Gearóid Spáinneach holds a pontifical diploma in Philosophy and the Arts.

¹⁶ Matthew, 19:4 (RSV)

¹⁷ Pope Pius XII Encyclical *Humani Generis* (1950), section 5.

The value of Eye Witness Accounts of our Shared History

James Lynch

It would seem God honoured Moses, the son of Amram, to witness Creation. The wording of the text of Genesis of the Creation and The Deluge 1656 years later are as an eye witness would record them. Today we replay our camcorders for vision and sound of past events – can we not rationally allow God to replay the events for Moses when instructing him of earlier events, or allow him the privilege of witnessing previous events? We need not assume it was only God Who told Moses of past events or inspired him to write on such events. Noah survived the Flood 350 years and his sons were contemporaneous with Abraham. Moses lived approximately 500 years after the death of Noah, but we should have no doubt he would have been instructed to the highest level in the Royal House of Egypt, then the power country of the region. Memories, recordings, evidences (and dare I say lessons?) of the global flood would have been fresher for the ancients than moderns.

Much effort is employed today by misguided theologians in rubbishing the first week of the creation Divine Account as recorded by Moses. Many say that the sun and moon were created on the fourth day and speculate falsely that therefore no light could be around for the first three days. Yet light and darkness were made on the first day. Scripture is clear that the bodies of the universe which includes the sun and moon were created on the first day, as was the Earth, it being furnished in the succeeding days. The fourth day account says *Let there be lights in the dome of the sky, to separate day from night...*¹ This does not say that they were *created* on the fourth day; it may just imply that they became *visible* from the fourth day. On cloudy days we can have light without seeing either sun or moon; the creation week could have been surrounded by much water vapour and cloud.

Let us now consider this passage from the book of Judith:

*The mountains to their bases, and the seas, are shaken; the rocks, like wax, melt before your glance. "But to those who fear you, you are very merciful."*²

¹ Gen. 1:14

² Judith 16:18, Catholic bible online-www.bible.catholic.net

In the French Catholic Priests' Missal, the translation is more accurately recorded:

The mountains to their bases, are sinking into the waters and the rocks melt like wax in your sight. But for those with faith (Noah's family on the waters in the Ark), they have nothing to fear, as their faith has saved them.

In this text, the French word *couler* is used, which translates as - to flow, run, to leak, to sink, to bring down, whereas *fondant* is French for melting. So it could be that in an eye witness account, the mountains would appear to be sinking or melting to those watching from the Ark, as the waters of the oceans were rising to cover them.

James Usher (Archbishop of Armagh, 1625 – 1656) and Sir Isaac Newton (1642–1727) accepted the chronology of the scripture and were agreed on the historicity of scripture. They argued, as all theologians should, from scripture (truth) to corollary historical records, or to known scientific facts, not the reverse. They accepted the Biblical account as St Thomas Aquinas did unless '*reason forbids, or necessity compels*' us to do otherwise. This will be very much the exception, if it occurs at all, and certainly not in any significant sense of a real contradiction. Usher had the advantage of being a Gaelic historian and could correlate the Gaelic history to scriptural history. The historical records of Ireland in fact parallel the Jewish history found in the scriptures and can be chronologically traced from the Deluge, making them a secondary source of these past events. Only two nations in the world have preserved their histories in chronological fashion, the Gaels and the Jews. What a privilege it is for Ireland to have in her possession our unbroken history back to Noah.

*“And (Samuel) Daniel agrees, that the principal part of the British antiquaries are lost, as Gildas complains in the fourth part of his history.”*³

“Camden says ‘that the antiquities of Ireland are much more valuable, and of more authority, than those of any other nation in the world’. When he speaks of Ireland, in his Britannia, he has this expression: ‘This island was not without reason called the ancient Ogygia by Plutarch’; and the reason he gives is, ‘for

³ Dermod ó Connor, *Keating's General History of Ireland*, James Duffy: Dublin, 1854, xx.

*they begin their histories from the most profound memory of antiquity, so that the antiquity of all other nations, in respect of them, is mere novelty.”*⁴

Now let us take another example of the value to posterity of eye witness records of history, recorded by The Four Masters in their epic work, the *Annals of Ireland*.⁵

From these notices we have reason to believe that the ecclesiastical writers carried forward a continuous chronicle from age to age; each succeeding annalist transmitting the records which he found existing along with his own; thus giving to the whole series the force of contemporary evidence.

The precision with which the compiler of the *Annals of Ulster* has transmitted the account of an eclipse of the sun, which took place in the year 664, affords a proof that this entry was derived from a contemporaneous record. Venerable Bede, who is followed by the Four Masters, mentions this solar eclipse as having occurred on the third day of May; but the *Annals of Tighnerach and Ulster* have preserved the exact day and hour. Bede evidently calculated the time according to the Dionysian cycle, the error of which was not detected in his time, and the Irish annalists copied the passage from the record of one who had seen this eclipse, and noted it at the time of observation. The following notices of eclipses and comets, copied from various works by the compiler of the *Annals of Ulster*, will show that they were recorded by eye-witnesses. The reader is to bear in mind that the *Annals of Ulster* are antedated by one year up to 1014, and that, in comparing these eclipses with the catalogue of eclipses composed by modern astronomers, he should add one year to the respective dates.

A.D. 495 [496]. *Solis defectio.*

A.D. 511 [512]. *Defectus solis contigit.*

A.D. 590 [591]. *Defectio solis .i. mane tenebrosum.*

A.D. 613 [614]. *Stella [comata] visa est hora octava die.*

A.D. 663 [664]. *Tenebre in Kalendis Maii in 11a hora.*

⁴ Ibid., xxv

⁵ *Annals of Ireland*, John o' Donovan (Ed.), 1851; vol 1, 3rd Ed, 1998 by Eamon de Burca, introductory remarks.

A.D. 673 [674]. *Nubes tenuis et tremula ad speciem celestis arcus iv. vigilia noctis vi. feria ante pasca ab oriente in occidentem per serenum celum apparuit. Luna in sanguinem versa est.*

A.D. 676 [677]. *Stella comata visa in mense Septembris et Octobris.*

A.D. 691 [692]. *Luna in sanguineum colorem in Natali S. Martini versa est.*

A.D. 717 [718]. *Eclipsis lune in plenelunio.*

A.D. 752 [753]. *Sol tenebrosus.*

A.D. 761 [762]. *Luna tenebrosa. Nox lucida in Autumnno.*

A.D. 762 [763]. *Sol tenebrosus in hora tertia.*

A.D. 772 [773]. *Luna tenebrosa ii. Nonas Decembris.*

A.D. 787 [788]. *Luna rubra in similitudinem sanguinis xii. Kal. Martii.*

A.D. 806 [807]. *Luna in sanguinem versa est.*

A.D. 864 [865]. *Eclipsis solis in Kal. Januarii, et Eclipsis Lune in eodem anno.*

A.D. 877 [878]. *Eclipsis Lune Idibus Octobris iv. Lune.*

A.D. 884 [885]. *Eclipsis Solis et visoe sunt stella in Coelo.*

A.D. 920 [921]. *Eclipsis Lune xv. Kal. Jan. feria prima hora noctis.*

A.D. 1018. The comet permanent this year for 14 days in harvest.- Cod. Clarend., tom.49.

A.D. 1023. An Eclipse of the Moone the 4th Id. of January, being Thursday.

An Eclipse of the Sunn the 27th of the same Moone, on Thursday. - Cod Clarend., tom.49.

A.D. 1031. An Eclipse on the day before the Calends of September. - Cod. Clarend., tom 49.

A.D. 1065 [1066]. There appeared a Comett for the space of three nights, which did shine as clear as the Moone at the full. - Ann. Clon.

The dates assigned to these eclipses are confirmed by their accordance with the catalogue of eclipses in *L'Art de Ver. les Dates*, tom. i. pp. 62-69; and from this accuracy it must be acknowledged that they have been obtained by actual observation, and not from scientific calculations; for it is well known that any later calculations, made before the correction of the Dionysian period, would not have given such correct results.

Thomas Moore (1779 – 1852), in his *History of Ireland*, makes the following remarks upon the eclipse of 664:

The precision with which the Irish annalists have recorded to the month, day, and hour, an eclipse of the sun, which took place in the year 664, affords both an instance of the exceeding accuracy with which they observed and noted

passing events, and also an undeniable proof that the annals for that year, though long since lost, must have been in the hands of those who have transmitted to us that remarkable record. In calculating the period of the same eclipse, the Venerable Bede, led astray, it is plain, by his ignorance of that yet undetected error of the Dionysian cycle, by which the equation of the motions of the sun and moon was affected, exceeded the true time of the event by several days. Whereas the Irish chronicler, wholly ignorant of the rules of astronomy, and merely recording what he had seen passing before his eyes – namely, that the eclipse occurred about the tenth hour on the 3rd of May, in the year 664 – has transmitted a date to posterity, of which succeeding astronomers have acknowledged the accuracy.⁶

Sir James Mackintosh (1765-1832), in *History of England*, confers the following encomium on the authenticity and antiquity of the Irish historical records:

The chronicles of Ireland, written in the Irish language, from the second century to the landing of Henry Plantagenet, have been recently published, with the fullest evidence of their genuineness and exactness. The Irish nation, though they are robbed of their legends by this authentic publication, are yet by it enabled to boast that they possess genuine history several centuries more ancient than any other European nation possesses, in its present spoken language. They have exchanged their legendary antiquity for historical fame. Indeed, no other nation possesses any monument of its literature, in its present spoken language, which goes back within several centuries of these chronicles.⁷

Dr. ó Connor quoted from his comments of the *Annals* of the Four Masters, in the Stowe Catalogue p. 114, p.2:

Those who have adopted the chronology of the LXX, which makes the world older than it is in the Hebrew text, are ably refuted by Natalis Alexander. Every discovery, and every vestige of the history of man, tends to prove that this planet is not inhabited above 6000 years. The glaring truth of the recent origin of man is acknowledged even by Lucretius, 1.5, *De Rer. Nat.:*”

⁶ Thomas Moore, *History of Ireland*, vol. I. p. 163.

⁷ Sir James Mackintosh *History of England*, vol.i. chap.2.

The following remarkably frank admission by Thomas Moore, poet and historian, was recorded by Eugene o'Curry, M.R.I.A., Professor of Irish History and Archaeology in the Catholic University of Ireland 1854-62; Corresponding member of the Society of Antiquaries of Scotland, in 1839:⁸

It was during those years (1839) that the poet Thomas Moore, author of a four-volume *History of Ireland* (of which three volumes had by then appeared) – 'on one of his last visits to the land of his birth....in company with his old and attached friend, Dr Petrie' – paid a visit to the Academy where he found o'Curry at work. In our scholar's words: At the time of his visit, I happened to have before me, on my desk, the *Books of Ballymote* and *Lecain*, the *Leabhar Breac*, the *Annals of the Four Masters*, and many other ancient books for historical research, and reference. I had never before seen Moore, and after a brief introduction and explanation of my occupation by Dr Petrie, and seeing the formidable array of so many dark and time-worn volumes by which I was surrounded, he looked a little disconcerted, but after a while plucked up courage to open the *Book of Ballymote* and ask what it was. Dr Petrie and myself then entered into a short explanation of the history and character of the books then present, as well as of ancient Gaedhlic documents in general. Moore listened with great attention, alternately scanning the books and myself; and then asked me in a serious tone if I understood them, and how I had learned to do so. Having satisfied himself upon these points, he turned to Dr Petrie and said: 'Petrie, these huge tomes could not have been written by fools or for any foolish purpose. I never knew anything about them before, and I had no right to have undertaken the *History of Ireland*'.

No less a person than Blessed Cardinal John Henry Newman bequeathed 300 pounds to ensure the preservation in print of o'Curry's manuscripts. The respectful study of historical eye-witness accounts should be an essential corrective to those who claim to teach us of past events which can have no living observers.

⁸ Eugene o'Curry, *On The Manners and Customs of The Ancient Irish, A Series of Lectures*, edited by W.K. Sullivan, Ph.D, with a new introduction by Nollaig ó Muráile, Vol. I, Introduction, Edmund Burke Publisher, 1996.

Darwinism Applied to Man

Alfred Russel Wallace



From: *Darwinism: An exposition of the Theory of Natural Selection with some of its applications* – 2nd Edn 1889.

In his final chapter, Darwin's co-discoverer of natural selection theory notes the similarities and differences between Man and animals, but offers 'proof' that mathematical, musical and artistic abilities, and the faculties for metaphysical abstraction, wit and humour cannot possibly have arisen through natural selection.

The special faculties we have been discussing clearly point to the existence in man of something which he has not derived from his animal progenitors—something which we may best refer to as being of a spiritual essence or nature, capable of progressive development under favourable conditions. On the hypothesis of this spiritual nature, superadded to the animal nature of man, we are able to understand much that is otherwise mysterious or unintelligible in regard to him, especially the enormous influence of ideas, principles, and beliefs over his whole life and actions. Thus alone we can understand the constancy of the martyr, the unselfishness of the philanthropist, the devotion of the patriot, the enthusiasm of the artist, and the resolute and persevering search of the scientific worker after nature's secrets. Thus we may perceive that the love of truth, the delight in beauty, the passion for justice, and the thrill of exultation with which we hear of any act of courageous self-sacrifice, are the workings within us of a higher nature which has not been developed by means of the struggle for material existence.

It will, no doubt, be urged that the admitted continuity of man's progress from the brute does not admit of the introduction of new causes, and that we have no evidence of the sudden change of nature which such introduction would bring about. The fallacy as to new causes involving any breach of continuity, or any sudden or abrupt change, in the effects, has already been shown; but we will further point out that there are at least three stages in the development of the organic world when some new cause or power must necessarily come into action.

The first stage is the change from inorganic to organic, when the earliest vegetable cell, or the living protoplasm out of which it arose, first appeared. This is often imputed a mere increase of complexity of chemical compounds; but increase of complexity, with consequent instability, even if we admit that it may have produced protoplasm as a chemical compound, could certainly not

have produced *living* protoplasm which has the power of growth and of reproduction, and of that continuous process of development which has resulted in the marvellous variety and complex organization of the whole vegetable kingdom. There is in all this something quite beyond and apart from chemical changes, however complex; and it has been well said that the first vegetable cell was a new thing in the world, possessing altogether new powers—that of extracting and fixing carbon from the carbon-dioxide of the atmosphere, that of indefinite reproduction, and, still more marvellous, the power of variation and of reproducing those variations till endless complications of structure and varieties of form have been the result. Here, then, we have indications of a new power at work, which we may term *vitality*, since it gives to certain forms of matter all those characters and properties which constitute Life.

The next stage is still more marvellous, still more completely beyond all possibility of explanation by matter, its laws and forces. It is the introduction of sensation or consciousness, constituting the fundamental distinction between the animal and vegetable kingdoms. Here all idea of mere complication of structure producing the result is out of the question. We feel it to be altogether preposterous to assume that at a certain stage of complexity of atomic constitution, and as a necessary result of that complexity alone, an *ego* should start into existence, a thing that *feels*, that is *conscious* of its own existence. Here we have the certainty that something new has arisen, a being whose nascent consciousness has gone on increasing in power and definiteness till it has culminated in the higher animals. No verbal explanation or attempt at explanation—such as the statement that life is the result of the molecular forces of the protoplasm, or that the whole existing organic universe from the amoeba up to man was latent in the fire-mist from which the solar system was developed—can afford any mental satisfaction, or help us in any way to a solution of the mystery.

The third stage is, as we have seen, the existence in man of a number of his most characteristic and noblest faculties, those ‘which raise him furthest above the brutes and open up possibilities of almost indefinite advancement. Those faculties could not possibly have been developed by means of the same laws which have determined the progressive development of the organic world in general, and also of man’s physical organism.

These three distinct stages of progress from the inorganic world of matter and motion up to man, point clearly to an unseen universe—to a world of spirit, to which the world of matter is altogether subordinate. To this spiritual world we may refer the marvellously complex forces which we know as gravitation,

cohesion, chemical force, radiant force, and electricity, without which the material universe could not exist for a moment in its present form, and perhaps not at all, since without these forces, and perhaps others which may be termed atomic, it is doubtful whether matter itself could have any existence. And still more surely can we refer to it those progressive manifestations of Life in the vegetable, the animal, and man—which we may classify as unconscious, conscious, and intellectual life,—and which probably depend upon different degrees of spiritual influx. I have already shown that this involves no necessary infraction of the law of continuity in physical or mental evolution; whence it follows that any difficulty we may find in discriminating the inorganic from the organic, the lower vegetable from the lower animal organisms, or the higher animals from the lowest types of man, has no bearing at all upon the question. This is to be decided by showing that a change in essential nature (due, probably, to causes of a higher order than those of the material universe) took place at the several stages of progress which I have indicated; a change which may be none the less real because absolutely imperceptible at its point of origin, as is the change that takes place in the curve in which a body is moving when the application of some new force causes the curve to be slightly altered.

Concluding Remarks

Those who admit my interpretation of the evidence now adduced—strictly scientific evidence in its appeal to facts which are clearly what ought *not* to be on the materialistic theory— will be able to accept the spiritual nature of man, as not in any way inconsistent with the theory of evolution, but as dependent on those fundamental laws and causes which furnish the very materials for evolution to work with. They will also be relieved from the crushing mental burthen imposed upon those who—maintaining that we, in common with the rest of nature, are but products of the blind eternal forces of the universe, and believing also that the time must come when the sun will lose his heat and all life on the earth necessarily cease—have to contemplate a not very distant future in which all this glorious earth—which for untold millions of years has been slowly developing forms of life and beauty to culminate at last in man— shall be as if it had never existed ; who are compelled to suppose that all the slow growths of our race struggling towards a higher life, all the agony of martyrs, all the groans of victims, all the evil and misery and undeserved suffering of the ages, all the struggles for freedom, all the efforts towards justice, all the aspirations for virtue and the wellbeing of humanity, shall absolutely vanish, and, “like the baseless fabric of a vision, leave not a wrack behind.”

As contrasted with this hopeless and soul-deadening belief, we, who accept the existence of a spiritual world, can look upon the universe as a grand consistent whole adapted in all its parts to the development of spiritual beings capable of indefinite life and perfectibility. To us, the whole purpose, the only *raison d'être* of the world—with all its complexities of physical structure, with its grand geological progress, the slow evolution of the vegetable and animal kingdoms, and the ultimate appearance of man—was the development of the human spirit in association with the human body. From the fact that the spirit of man—the man himself—*is* so developed, we may well believe that this is the only, or at least the best, way for its development; and we may even see in what is usually termed “evil “ on the earth, one of the most efficient means of its growth. For we know that the noblest faculties of man are strengthened and perfected by struggle and effort; it is by unceasing warfare against physical evils and in the midst of difficulty and danger that energy, courage, self-reliance, and industry have become the common qualities of the northern races; it is by the battle with moral evil in all its hydra - headed forms, that the still nobler qualities of justice and mercy and humanity and self-sacrifice have been steadily increasing in the world. Beings thus trained and strengthened by their surroundings, and possessing latent faculties capable of such noble development, are surely destined for a higher and more permanent existence ; and we may confidently believe with our greatest living poet—

That life is not as idle ore,

But iron dug from central gloom,
And heated hot with burning fears,
And dipt in baths of hissing tears,
And batter'd with the shocks of doom

To shape and use.

[*In Memoriam*, Tennyson]

We thus find that the Darwinian theory, even when carried out to its extreme logical conclusion, not only does not oppose, but lends a decided support to, a belief in the spiritual nature of man. It shows us how man's body may have been developed from that of a lower animal form under the law of natural selection; but it also teaches us that we possess intellectual and moral faculties which could not have been so developed, but must have had another origin ; and for this origin we can only find an adequate cause in the unseen universe of Spirit.

For an introduction to Wallace's work, see Daylight No 39, Editorial & pp 18-24.

Pontifical Biblical Commission on *Genesis* (1909)

From *Creation Rediscovered*, G. R. Keane ¹

In 1909 the *Pontifical Biblical Commission* declared its ruling on the historical character of the first three chapters of *Genesis*. The actual statements of the Commission (translated from Denzinger ²) are as follows:

1. False Exegesis:

Whether the various exegetical systems which have been proposed to exclude the literal historical sense of the first three chapters of the book of *Genesis*, and have been defended by the pretense of science, are sustained by a solid foundation?

Reply: In the negative.

2. Historical Character of the First Three Chapters:

Whether, when the nature and historical form of the book of *Genesis* does not oppose, because of the peculiar connections of the first three chapters with each other and with the following chapters, because of the manifold testimony of the Old and of the New Testaments; because of the almost unanimous opinion of the Holy Fathers, and of the traditional sense which, transmitted from the Israelite people, the Church always held, it can be taught that the three aforesaid chapters of *Genesis* do not contain the stories of events which really happened, that is, which correspond with objective reality and historical truth; but are either accounts celebrated in fable drawn from the mythologies and cosmogonies of ancient peoples and adapted by a holy writer to monotheistic doctrine, after expurgating any error of polytheism; or allegories and symbols, devoid of a basis of objective reality, set forth under the guise of history to inculcate religious and philosophical truths; or, finally, legends, historical in part and fictitious in part, composed freely for the instruction and edification of souls?

Reply: In the negative to both parts.

¹ G.J. Keane, *Creation Rediscovered* (2nd Edn.) Tan Books, 1999, pp 363-366.

² Pontifical Biblical Commission on *Genesis* 1-3 (June 30, 1909) [nos. 2121-8], *The Sources of Catholic Dogma*, Henry Denzinger's *Enchiridion Symbolorum* (30th edition 1954, revised by Karl Rahner, S.J.), translated by Roy J. Deferrari (St. Louis, MO: B. Herder Book Co., 1957; reprint Powers Lake, ND: Marian House, nd.). 363

3. Historical Character of Certain Parts:

Whether in particular the literal and historical sense can be called into question, where it is a matter of facts related in the same chapters, which pertain to the foundations of the Christian religion; for example, among others, the Creation of all things wrought by God in the beginning of time; the Special Creation of man; the formation of the first woman from the first man, the oneness of the human race; the original happiness of our first parents in the state of justice, integrity, and immortality; the command given to man by God to prove his obedience; the transgression of the divine command through the devil's persuasion under the guise of a serpent, the casting of our first parents out of that first state of innocence; and the promise of a future restorer?

Reply: In the negative.

4. Interpretation:

Whether in interpreting those passages of these chapters, which the Fathers and Doctors have understood differently, but concerning which they have not taught anything certain and definite, it is permitted, while preserving the judgment of the Church and keeping the analogy of faith, to follow and defend that opinion which everyone has wisely approved?

Reply: In the affirmative.

5. Literal Sense:

Whether all and everything, namely, words and phrases which occur in the aforementioned chapters, are always and necessarily to be accepted in a special sense, so that there may be no deviation from this, even when the expressions themselves manifestly appear to have been taken improperly, or metaphorically or anthropomorphically, and either reason prohibits holding the proper sense, or necessity forces its abandonment?

Reply: In the negative.

6. Allegory and Prophecy:

Whether, presupposing the literal and historical sense, the allegorical and prophetic interpretation of some passages of the same chapters, with the example of the Holy Fathers and the Church herself showing the way, can be wisely and profitably applied?

Reply: In the affirmative.

7. Scientific Expression:

Whether, since in writing the first chapter of *Genesis* it was not the mind of the sacred author to teach in a scientific manner the detailed constitution of visible things and the complete order of Creation, but rather to give to his people a popular notion, according as the common speech of the times went, accommodated to the understanding and capacity of men, the propriety of scientific language is to be investigated exactly and always in the interpretation of these? *Reply:* In the negative.

8. The word yom (day):

Whether in that designation and distinction of six days, with which the account of the first chapter of *Genesis* deals, the word (dies) can be assumed either in its proper sense as a natural day, or in the improper sense of a certain space of time; and whether with regard to such a question there can be free disagreement among exegetes? *Reply:* In the affirmative.

Msgr. John E. Steinmueller, in *A Companion to Scripture Studies*, noted that Pope St. Pius X clarified the authority of the then Pontifical Biblical Commission. Presumably, the clarification by Pius X in 1907 is applicable to the declarations given on June 30, 1909. Msgr. Steinmueller wrote:

In this century the *Pontifical Biblical Commission* has played an important role in the history of the Catholic Bible. It was instituted on Oct. 30, 1902, by Leo XIII to promote and direct Biblical studies. About five years later (Nov. 18, 1907) St. Pius X in his *Motu Proprio* determined the authority of its decisions. From these it follows:

- (1) that its decrees are neither infallible nor unchangeable;
- (2) that they enjoy the same authority as the decrees of the other Sacred Congregations;
- (3) that external as well as internal consent is required;
- (4) that this assent need not be absolute and irreformable;
- (5) that the formal object of these decrees is the security or nonsecurity of any doctrine, that is, it does not stress so much the truth or falseness of a Biblical interpretation as it safeguards a revealed doctrine by declaring such and such an interpretation is unproven, untimely, and tends to weaken the teaching of the Church.³

³ Msgr. John E. Steinmueller, *A Companion to Scripture Studies* (Houston, TX: Lumen Christi Press, 1969), Vol. 1, p. 300.

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Guillermo Gonzalez, quoted in *The Case for a Creator*, Strobel, L., Zondervan 2004, pp 185-186.

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