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Redemption in a Flower

Spanish Missionaries to South America in the 16th century used this beautiful bloom to symbolise Christ's suffering—hence it was named the **Passion Flower** (*Passiflora*). The purple corolla represents the crown of thorns, the three stigmas represent the nails, and the five stamens Christ's five wounds. The lance-like leaves symbolize the spear head, and the tendrils are the whips of the scourging, or cords used to bind Him. Flowers die after a day, as did Christ on the Cross.

For other symbolic features, and to watch its pollination mechanism, see websites, e.g.

<http://www.passiflora-uk.co.uk/passion-flower-story>

<http://plantsinmotion.bio.indiana.edu/plantmotion/flowers/passionflower>



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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.

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

- ❖ Publishes the periodical *Daylight* for subscribers in 20 countries.
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EDITORIAL

Evolution? The Plant Kingdom says ‘No!’

In our last number, we took a long, hard look at the largest animals, the whales (cetaceans), and concluded that the idea of their evolution from land animals is entirely mythical. In this issue, we focus on the largest – and smallest – plants, and again show that the scientific evidence from both living and fossil evidence soundly contradict Darwinism, and that some evolutionists have openly admitted that they ‘believe in it’ despite the lack of any factual proof.

The range of plant forms and sizes is astonishing – even just considering the structures of leaves and flowers. Yet their anatomy is made up from a relatively small variety of cell types, differentiated from unspecialised meristematic cells by processes involving chemical growth factors, such as auxins. These plant hormones also control plant movements (e.g. phototropism and geotropism), fruit drop and leaf fall. Other special chemicals regulate flowering in relation to day length (photoperiodicity), bud development, root formation, etc. Any plant found can usually be classified into a known category on the basis of our current knowledge, but despite sharing cell and tissue structures and physiological processes with other known families, may have its own unique form, with a structure perfectly fitting its environmental niche. This is strong evidence for plants having arisen through purposeful intelligent design. And

without plants producing organic food through photosynthesis and replacing carbon dioxide with oxygen in the atmosphere, there could be no animal or human life on earth.

The most massive living thing on earth is a Giant Sequoia (*Sequoiadendron giganteum*) in California named ‘General Sherman,’ standing 84m high, estimated weight 2030 tonnes and age up to 2,700 years. The oldest is a Bristlecone Pine (*Pinus longaeva*) ‘WPN-114’ in Nevada, estimated from tree rings and radiocarbon dating to be about 4,900 years old. Though there are many examples of living trees that must date back two or three thousand years, it is quite feasible that none pre-date the end of the Deluge.



Sequoia National Park, California
www.stockphotosecrets.com

Several of the Church Fathers, such as St Basil, St Gregory of Nyssa and St Augustine, discussed the Genesis account of six-day creation (the Hexaemeron) in much detail. St Bonaventure comments on the origin of plants:

God ordered things most excellently by making herbs and trees to come forth from the earth on the very same day on which the earth was produced. This He did both in order to exclude error [*of sun-worshippers – Ed.*], i.e. as Basil says, lest it should be thought that the sun is the principal cause of the things originating on the earth [...] – and again because plants and herbs are, as it were, connatural to the earth.¹

Even in less ‘scientific’ times, it must have been recognised that there is a connection between sunlight and plant growth, so it seemed strange that Genesis has plants appear on Day 3, but the sun on Day 4. However, light, water and earth were all present before plants appeared, so this is still a reasonable sequence. The elements composing plants are all present in the water, air and earth for God to form plants (not seeds), which then grew and eventually reproduced. The idea of the ‘Days’ being long periods of time makes no sense, as plants would soon require sunlight for photosynthesis; we know that many also depend on animals for pollination and seed dispersal.

We must also appreciate that the acts of special creation were unique events which we cannot expect to observe nowadays, and that the curse on the earth after the Fall included effects on plant life (‘thorns & thistles’, Gen: 3:18).

¹ *In. II, Sent.*, dist. xiv, pars II, dub. ii ; quoted in *Evolution and Theology*, Ernest C. Messinger, Burns Oates & Washbourne (1931), p.63.

Teilhard de Chardin – the cult continues

Following my report, [Daylight No 59, pp.1-2] more information has now appeared regarding what *Christian Century*, described as “the leading Protestant magazine in the USA”, calls “the notorious Six Propositions”. These were reluctantly signed by Teilhard in 1925 and recently discovered by Paul Bentley in Jesuit archives in Rome. A brief outline follows here.

An article by David Grumett (lecturer at Edinburgh University) explains that the first three propositions were taken from the Council of Trent’s doctrines on original sin: committed by Adam, with the loss of holiness and justice, and passed to his descendents ever since. Teilhard accepted these. The final two came from the First Vatican Council (1870): faith is superior to reason, although never truly in conflict; advancing knowledge cannot change dogmas. Teilhard accepted these as he claimed he was drawing out a deeper meaning, not reinterpreting dogma. The fourth proposition stated that “the whole human race takes its origin from one first parent, Adam”. This was a problem for him – he accepted it ‘on faith’ but with reservations as being open to revision in the future. For further analysis, please see this article:

<https://www.christiancentury.org/article/critical-essay/pierre-teilhard-de-chardins-theological-trouble>

The British Teilhard Network has got up a petition [15 August 2018] to Pope Francis appealing to him to declare Teilhard de Chardin SJ a Doctor of the Church! That outcome would certainly signal grave problems in the Vatican.

Long-time supporter Patrick Ellis writes:

I have a massive selection of old second-hand **Bibles**, Catholic and Protestant, in the **Western and Eastern languages** and also covering the subjects of **apologetics and Bible study aids**. This is an ideal selection of material suitable for personal collection or scholarly research studies. I am open to offers and any payment received will be gladly donated to *Daylight* after my costs have been covered.

Please contact Patrick for more details if interested:

E-mail: patrickellis_uk@yahoo.co.uk *Phone:* 07941 467786

Fr Peter Lessiter passed to his eternal reward on Our Lady’s birthday – he was a key supporter of *Daylight* in our early days. Tribute in next issue. *AN*

Problems of Plant Evolution

Anthony Nevard

In an influential book by Jonathan Wells entitled *Icons of Evolution*¹, the author critically examines the ten most commonly used examples of supposed ‘evidence for Darwinian evolution’ – it is no accident that none of these subjects relates to demonstrating the evolution of plants, which have been assumed ‘must have evolved’ to support all animal life on earth. This concept appears in the seminal work of 1844, *Vestiges of the Natural History of Creation*², the author of which (Robert Chambers) contends:

... that the several series of animated beings, from the simplest and oldest up to the highest and most recent, are, under the providence of God, the results, *first*, of an impulse which has been imparted to the forms of life, advancing them, in definite times, by generation, through the grades of organisation terminating in the highest dicotyledons and vertebrata.

Chambers based his argument on the evidence of geology, beginning with a consideration of astronomy and the nebular hypothesis, and the formation of granite and sedimentary rocks. He points out that:

The absence from these rocks of all traces of vegetable and animal life, joined to a consideration of the excessive temperature which seems to have prevailed in their epoch, has led to the inference that no plants or animals of any kind then existed.³

The study of rock strata over the earth has provided abundant fossil evidence of varied plant life in the distant past, especially in the coal measures of the Carboniferous ‘era’. However, the attempts to create plausible phylogenetic links between existing and extinct plant species have failed to justify the theory of transformism. We shall see that materialistic stories of plant origins are admitted, even by leading evolutionists, to be lacking scientific evidence, and are based on their faith, not empirical facts.

¹ Regnery Publishing (2002), summarised on pp. 6-7 : the Miller-Urey experiment (1953); the evolutionary tree of life; homologous structures in vertebrate limbs; vertebrate embryo similarities; the fossil bird *Archaeopteryx*; selection in peppered moths; adaptation in Darwin’s finches; novel mutations in fruit fly experiments; fossil horse ancestry; ape-human links.

² Robert Chambers, quoted in Spencer, H., *The Principles of Biology*, Vol. I, Williams and Norgate (1898) p. 491. [See p. 25 in this issue for more details on ‘*Vestiges*’]

³ Anon., *Vestiges of the Natural History of Creation*, George Routledge (1887), p. 47. The author revealed in 1846 that he opted for anonymity as his “design was not only to be personally removed from all praise or censure which it might evoke, but to write no more on the subject.” (p.5) He and his brother William went on to found the famous Chambers’ publishing company.

What do plants need to survive on land?

According to evolutionary theory, animals had been evolving in the sea for many millions of years before plants appeared on land, as H.G. Wells explains in his influential biology textbook *The Science of Life*:

For more than half its history Life played out its drama under water, and the continents were practically barren [...] From comparatively early times, a few simple algae may have trailed their filaments over the seashore or the moist borders of rock pools, or a few bacteria invaded the crumbling earth surface. But for the rest the earth was innocent of plants, and therefore of animals as well. [...] Not until Middle Devonian times did the earth begin to be amply clothed with the familiar green of vegetation and the stir of life.⁴

Wells acknowledges the major challenges of life on land.

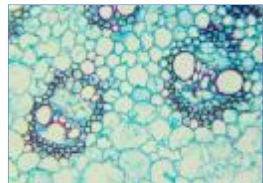
We are so familiar with the plants of the modern world – grass or oak-tree, rose-bush or bindweed – that we forget what evolutionary triumphs they embody, what difficulties surmounted, what adjustments perfected. Before plants could successfully colonise the land, their whole structure and mode of reproduction had to be altered.⁵

This is a summary of the ‘changes’ Wells describes:

1. Developing aerial structures to obtain carbon (as CO₂ gas) from the air, as well as exposing a large surface (as leaves) to absorb light energy.
2. Driving down into the soil (by roots and root hairs) to obtain water and dissolved minerals, including essential nitrogen (to make proteins).
3. Developing a system of pipes (xylem vessels) to transport the water and minerals up from the roots to the leaves, growth regions and reproductive organs.
4. Forming a transport system (phloem sieve-tubes) to carry the synthesised organic materials from the leaves back down the plant to respiring and growing roots.



Section of winter
jasmine leaf x100
©stockphotosecrets.com

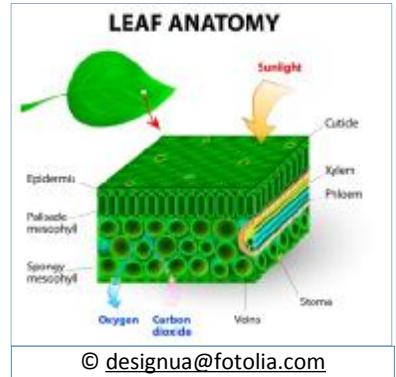


Section of corn
stem x400
©stockphotosecrets.com

⁴ Wells, H.G., Huxley, J., Wells, G.P., *The Science of Life*, Cassell, (1931) p.426. This was an immensely influential book, going through several editions, and still being used in US college classes in the 1960s. Originally published in magazine format, the work is arranged as nine ‘books’ of several chapters each; Book III is entitled ‘The Incontrovertible Fact of Evolution.’

⁵ *Ibid.*, p. 426

5. Protection of living tissues from drying up in the air, by having thicker cell walls, a waxy cuticle, or layers of protective cork or bark.
6. Provision of regions where carbon dioxide can pass through moist air spaces (spongy leaf mesophyll) to reach the chlorophyll in the leaf cells.
7. Control of exchange of gases by means of pores (stomata), regulated by guard cells to open by day and close at night.⁶
8. Support for the aerial structures by pillars of cells with walls hardened by woody lignin, joining up to make a strong but flexible skeleton.
9. Allowing for growth regions (meristems) at the tips of the shoot and root branches, and for thickening of the stem and root to provide the extra transport and support as the plant becomes larger.



After this sober scientific account of the needs of the land plant, Wells adds this astonishing and imaginary ‘just-so’ story:

These main distinctive structures are necessary to any land-plant that is to grow erect: difference of root and stem, woody skeleton, and upward and downward transport systems. And we find that they had all been developed by the middle Devonian, allowing large trees to be evolved in that remote epoch, only a few million years after the first invasion of the land. Then they appear, essential land-plants; and all the subsequent lapse of time has brought about only minor variations or improvements of detail.⁷

In typical Darwinian fashion, any slight difference of a plant’s ‘thicker cuticle’ to protect against desiccation, or ‘longer root’ to improve anchorage or water absorption, ‘must have’ supposedly: (a) given the individual plant a selective advantage, (b) enabled it to reproduce more effectively, (c) arisen from a genetic mutation or recombination, (d) been passed on to give its offspring this advantage, (e) led to the separation of a new population, (f) resulted in the extinction of competing populations, (g) led to other advantageous adaptations

⁶ For further details of leaf design ‘adaptations’, see *Daylight* No 48 (Dec 2013), Editorial p. 1-3 and back cover feature *But only God can make a leaf*.

⁷ Wells, *op.cit.*, p. 428

in the same population to eventually produce a new species. This is all sheer conjecture. Of course, there are examples of land plants with very different structures, growth habits and degrees of independence from water. The confidence trick is to arrange them in a plausible sequence and then argue that one type turned into another, or ‘had a common ancestor’ – but the evidence for the required intermediates always turns out to be imaginary. In any case, since there are plant species living now in a wide range of habitats over the world, how could selection pressure have caused adaptive radiation to produce such variety? We can still find algae, mosses, grasses and dicotyledonous weeds growing together in our lawns.

Don’t let inconvenient facts upset a favourite theory

Wells correctly stresses the ‘adjustment’ land-plants needed to make in relation to reproduction, owing to the need for water for the gametes to meet:

It proved a much more complex problem to solve than the problem of support and transportation. The solution was a gradual one. It was worked out in four stages – the spore was the first, provisional response, then came the seed, then the pollen-tube, and finally the flower. .. It took two hundred and fifty million years before the plants had achieved their final improvement in this matter.⁸

The text informs us that the end of the Silurian was the time of mountain-building, when continents were raised and waters shrank.

In those times of change many seaweeds must have then been driven to struggle in various half-way habitats – salt-marshes, peat-moss and fresh-water swamps and bogs; and from one or more of these plant adventurers the ancestors of true land-plants must have sprung. Their actual lineage has not yet been vouchsafed to us. All that we have as yet is a tantalising collection of scraps and hints. But there is every reason to suppose that the actual transmigration across the water line took place at the turn of Silurian and Devonian times and speedily gave us plants with root-hairs but without roots, with green stems pierced with air holes but without leaves, with desiccation-resisting spores but without elaborate spore-sacs – the bare minimum, so to speak, of equipment for land-life. But this once achieved – after hundreds of millions of years of water-life – it took but ten or twenty millions to evolve huge trees and elaborate seeds.⁹

Fast evolution, slow evolution, no evolution – the theory is so adaptable! Later, we shall look briefly at the issue of plant life-cycles alluded to in the next quotation. Wells continues, and then makes an astounding admission:

⁸ *Ibid.*, p. 428.

⁹ *Ibid.*, p. 429

In Book 2¹⁰ we compared the life-histories of various land-plants, and showed what strange identifications we were forced to make – how the whole moss-plant corresponds with the insignificant prothallus of a fern or the still more insignificant tube of a germination pollen-grain; how the green spore-bearing leaf of a fern corresponds with the stamens and ovaries of a buttercup. And we hinted that the transformations that greet us as we pass up the vegetable scale from fern to flower had something to do with the plant's progressive adaptation to dry land.

Then we were concerned mainly with forms and the comparison of forms. Here we come to the explanatory story. We could not tell it, however, until we had justified our belief in Evolution; for without Evolution, biology is only disjointed facts; with evolution, it is seen to be one great dramatic history, formed of thousands of interwoven adventures.

Let us tell the story of the Land-plant as it ought to be told, beginning, as is right and proper, with a humble beginning, tracing our hero's many vicissitudes, and following the tale out to its happy ending. It is a story of emancipation; of life rising above old handicaps. It is not always as easy story to follow, as it makes its turns and twists; but it is worth following, since to grasp it gives a new meaning to every tree and flower.¹¹

So we are told to believe in the theory first, then fit the facts around it! And never mind the contradictions or lack of evidence.

Thus, of our five great groups of ancient plants, two had clung to their old ways [*i.e. they didn't evolve like we might have expected*] and always passed through a free sexual generation on the ground; two had developed seeds [*i.e. just like their successors today*]; and one, though seedless, had arrived at a half-way house. ... Though we see many examples of plants which have persisted with partially evolved seeds, the actual evolution of these seeds has not yet been revealed to us in fossils [*i.e. they haven't evolved, and we don't know how they developed seeds*]. Presumably it took place with some rapidity (geologically speaking) in lower Devonian times, prompted by the cool and arid conditions which then prevailed.¹² [*Ah, that old dodge, later resurrected by Eldridge and Gould's 'punctuated equilibria' theory – evolution happened too fast to leave any evidence!!!*]

The scale and scope of the problem

On the positive side for the Darwinian theory, there is the evidence of:

- (a) many plant species having rapid rates of sexual reproduction, and abundant spore or seed production, so potentially providing more variation on which selection can act;

¹⁰ This extract was from 'Book 5'.

¹¹ *Ibid.*, p. 430

¹² *Ibid.*, p. 436.

- (b) the occurrence of ‘sporting plants’ which have suddenly produced an new bud with different characteristics (caused by mutations) which can be propagated under culture;¹³
- (c) the results of artificial selection of cultivated plants, cereals, vegetables, fruit trees and flowers over many centuries giving rise to improvements in many different characteristics of the plant;
- (d) novel varieties appearing randomly, as noted by de Vries (1901) in the evening primrose *Oenothera lamarckiana*, which he called mutations;
- (e) permanent and inherited changes in the genome resulting from additional whole chromosomes appearing, even by a doubling of the entire haploid chromosome number. This produces a polyploid cell which may result in plants with enhanced characteristics. The process can be artificially induced with the use of the alkaloid colchicine, which inhibits the formation of the mitotic spindle, which is required for separating chromosomes at cell division. Many crop plants are polyploid, as are some animals.¹⁴
- (f) well-preserved fossil remains of many plants, especially in the Carboniferous (coal-bearing) strata.

The argumentation in support of plant evolution often begins with the origin of cultivated plants, as we read in D.H. Scott’s book *The Evolution of Plants*:

We know, for example ... that our Roses and Tulips, Potatoes and Parsnips, Wheat and Oats, with their numerous varieties and races, all came originally from wild species, often extremely different from the garden or field plants which man has created out of them. We will not go into the question *how* the cultivated forms came from the wild types – that is a long and involved story, always difficult and often impossible to unravel in detail. [...] But, whatever the difficulties, we at any rate know that all cultivated plants have come from pre-existing wild forms by descent with modification. This, however, is Evolution, and we arrive at the conclusion that all those plants of which we know the origin have been evolved from other, different plants which existed before them.¹⁵

By analogy, it is argued that wild forms also arose in this way without human interference – “This line of argument is due to Darwin, who first taught the world to believe in Evolution.”¹⁶ However, the writer describes the task of

¹³ As noted by Darwin in *Origin of Species* (6th Edn., 1862), p. 11

¹⁴ Polyploidy is a fascinating subject and evidence suggests that it has occurred naturally in the past, though it does not account for the changes required for macro-evolution in plants or animals. <https://en.wikipedia.org/wiki/Polyploidy>

¹⁵ Scott, D.H., *The Evolution of Plants*, Williams and Norgate (c1918), p.8

¹⁶ *Ibid.*, p.9

tracing the history of plant evolution as “a most difficult problem,” stating that “The evidence on which we have to rely comes partly from the comparative study of plants now living.”¹⁷ This involves grouping plants into families that include more closely related genera and species. To clarify the terminology here, the plant kingdom includes six broad categories, or divisions:¹⁸

1. **ALGAE** These include relatively simple plants, usually green, that carry out photosynthesis, ranging from microscopic unicellular forms (e.g. diatoms) through seaweeds (e.g. *Fucus* spp) to giant kelp, which can grow to 80m in length. Classification is complicated!
Estimated 72,500 species worldwide. [<https://en.wikipedia.org/wiki/Algae>]
2. **FUNGI** Organisms which feed on organic material with a simple branching structure but (unusually) have no cell walls to divide the cytoplasm. Includes yeasts, moulds and mushrooms. Reproduction by spores. Algae and fungi may be known as Thallophytes, owing to their simple forms. Classification very complicated!
Estimated 120,000 species worldwide. [<https://en.wikipedia.org/wiki/Fungus>]
3. **BRYOPHYTES** Green plants but with relatively simple form, without true leaves or roots. Reproduce by spores and dependent on moist conditions. Include mosses and liverworts. Non-vascular, with no specialised tissues for internal transport.
About 34,000 species in 177 families.
4. **PTERIDOPHYTES** Vascular plants with leaves (fronds), roots and stems. Reproduce by spores. Well suited to land, they include ferns, club-mosses and horsetails.
About 13,000 species in 48 families.
5. **GYMNOSPERMS** Vascular plants that reproduce by ‘naked seeds’ (i.e. not enclosed in a fruit). Includes cycads, yews, and conifers such as *Sequoia*, the most massive living organisms.
About 1000 species in 12 families.
6. **ANGIOSPERMS** The dominant group of vegetation in the world – the flowering plants. Two main series: monocotyledons (with one seed-leaf and narrow, parallel-veined leaves) and dicotyledons (with two seed-leaves, and broader, net-veined leaves).
About 352,000 species in 405 families.

These comprise the variety of plants that evolutionary theory has to explain.

¹⁷ *Ibid.*, p. 16

¹⁸ Using the traditional system. Modern classification places the Fungi in a separate Kingdom. Statistics from <http://www.theplantlist.org/>

*The Plant List*¹⁹ includes 1,064,035 scientific plant names of species rank, of which 350,699 are accepted species names. They belong to 642 plant families and 17,020 plant genera.²⁰ And this remarkable diversity does not even include Algae and Fungi! Of course, the ‘problem’ of the evolutionary story of plants starts with all the issues around the origin of life itself, the synthesis of DNA, chromosomes, proteins and the cell membrane, the organelles, chlorophyll and the photosynthetic process, the synthesis of cellulose, etc. etc. It is assumed that smaller and simpler organisms must have evolved before larger, multicellular types with differentiated tissues and organs, but even this principle meets with contradictions from both living and extinct organisms.

The fact that these plants can be naturally grouped (some less easily than others) into families implies that there are features which enable them to be distinguished as separate, and these differences are greater than the expected limits of micro-evolution. To demonstrate their ancestry requires unearthing transitional forms from rock strata of appropriate age to connect the genera together. Although written a century ago, the book *Plant Evolution* by Dukinfield Scott MA, LLD, FRS, (President of the Linnaean Society) includes essentially the same issues and arguments that still apply today. Simply showing family relationships is not enough, as the writer explains:

There are, however, great difficulties; we cannot always be sure that our groups are natural, and even if they are, we are still a long way from being able to trace their descent. [...] The utmost we can get out of the comparison of living plants is the conclusion that the ancestors of one group (which we usually call the higher) were more or less like the members of another group (which we usually call the lower).

The idea of “higher” and “lower” is, however, very likely to lead us wrong. Many people suppose that Evolution means progress from the lower to the higher, from the simple to the complex, and are therefore apt to assume that a simple group of organisms is likely to represent the ancestry of a more complex, related group; very often, however, the reverse is the truth.

For example, a beginner might very naturally suppose that the Duckweeds, Flowering Plants as simple as Liverworts, with no regular distinction between stem and leaf, represent a primitive, ancestral stage in the evolution of the higher families of Flowering Plants; all botanists, however, are agreed that the Duckweeds are really degenerate water-forms, degraded from higher plants, and are not primitive or ancestral at all.²¹

¹⁹ <http://www.theplantlist.org/> (2013)

²⁰ The major taxonomic ranks on the Linnaean system for plants are:
Division/Phylum, Class, Order, Family, Genus and Species.

²¹ *Op. cit.*, p. 17.

The evolutionists' time scale

We shall now look briefly at some of the evidence and ideas that have been used to support the very weak case for plant evolution. There will be some mentions of named geological strata, so it may be helpful to refer to the following chart.

Geological Time Scale [based on *Lowson's Botany*] ²²

Era	Geological system	Millions of years ago	Major Plant Groups known to have existed					
Cenozoic		Up to present day						
Mesozoic	Cretaceous	70						ANGIOSPERMS
	Jurassic	140						
	Triassic	170					GYMNOSPERMS	
Paleozoic	Permian	195						
	Upper Carboniferous	220				BRYOPHYTES		
	Lower Carboniferous	255						
	Devonian	275						
	Silurian	320			PTERIDOPHYTES			
	Ordovician	350						
	Cambrian	420		ALGAE				
Pre-Cambrian		520						

²² Simon, E., Dormer, K., Hartshorne, J., *Lowson's Textbook of Botany* 14th Edn. (1966), University Tutorial Press, p. 444. (The chart is somewhat simplified, and there is some variation in the estimated time periods in different published versions of the column.)

However, it is important to be aware that, (a) the sequence of rocks is a theoretical concept, not found fully in reality anywhere in the world except in books; (b) the rocks are dated according to the types of ‘index fossils’ they contain; (c) there are places where the rocks are ‘in the wrong order’ because their fossiliferous strata do not follow the expected sequence, and it is claimed that the strata must therefore have turned upside down, (e.g. in Montana, Alberta and Wyoming, USA ²³); (d) in many places there are ‘gaps’ of supposedly millions of years of rock deposition entirely missing; (e) experimental and field evidence show that strata can form much more rapidly than had been thought by Lyell in 1830; ²⁴ (f) the assumption that lower rock layers must be older than upper ones has been disproved; ²⁵ (g) modern methods of dating rocks from calculations based on radioactivity decay rates have yielded some inconsistent evidence and depend on several assumptions. ²⁶

So what about the fossil evidence?

Scott continues, after referring to the fossil history of animals, e.g. the horse:

Fossil plants are less familiar, but, in their importance as historical documents, they are not unworthy to be compared with the animal record. If in some respects the botanist is less fortunate than his zoological colleague, in others he has the advantage. Though there is nothing in plants quite like the skeleton, internal or external, of animals, so well adapted for preservation and so valuable as evidence, yet in knowledge of outward form and anatomical structure the fossil-botanist has the best of it. Besides the impression and casts of the stems, leaves, etc., which are the best known kinds of plant-fossils, we have in certain formations the still more valuable petrified specimens in which the mineral substance, originally in solution, has so thoroughly permeated the tissues as to preserve their minute structure. We are thus able, for example, to study by means of thin sections the microscopic anatomy of many plants of the Coal Measures, with almost the same accuracy as if our specimens had just been gathered in the garden, instead of having lain buried in the earth for some millions of years.

While it is reasonable to claim that fossil remains with recognisable features were once living organisms, it is impossible to be certain that they must now be extinct, just because living individuals have never been encountered or reported. There have been several cases when so-called ‘living fossils’ have unexpectedly turned up, such as the famous Coelacanth fish *Latimeria*, thought

²³ Nelson, B., *The Deluge Story in Stone*, Bethany Fellowship, (1931, 1968), pp 143-146.

²⁴ Mount St Helens: <https://creation.com/lessons-from-mount-st-helens>

²⁵ Sedimentology experiments: <http://www.sciencevsevolution.org/Berthault.htm>

²⁶ The RATE project (1997-2005) was funded by Creation Research groups in order to test the radioisotope dating methods within a young-earth framework, but left unanswered questions.

to have been extinct for 65 million years but found alive in the 1930s. Nor is it rational to suppose that the *absence* of a certain species from a rock stratum proves that it did not exist in the world in that geological period! Yet this unprovable and unreasonable assumption is implicit in all the speculations of evolutionary theories based on fossils. And if supposedly ancient but well-preserved fossils do resemble modern types, this is clearly positive evidence of *no evolution*, with the additional implication that the fossilisation event could have been thousands rather than ‘millions of years ago’.

Scott stresses the dominance of the Angiosperms (flowering plants) in the modern world, including their adaptation to every climate from perpetual snow in the High Alps to hot deserts of Central Africa or America, where gigantic Euphorbias and Cacti flourish. In tropics and damp forests hundreds of epiphytes, e.g. orchids, grow on trees and shrubs. Pitcher plants, the Sundew and the Venus Fly-Trap are carnivorous, feeding on animals. There are parasites such as Mistletoe and Dodder, and the famous *Rafflesia*, which boasts the biggest flower in the world, but has no stem, leaves or roots, growing threads like a fungus into the plant it attacks. Then there are aquatic Angiosperms, mostly in freshwater, such as Duckweed and the Hornwort. These display complete transformation from typical



Opuntia cactus
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flowering plants. Some plants (halophytes) are

even accommodated to life by the sea and tolerate salty conditions, e.g. mangrove trees, *Salicornia* and *Spartina*, and these are all angiosperms. Scott is unaware of any marine Moss, Fern or Gymnosperm, despite them supposedly being ultimately derived from algae, most of which are marine! So, rather like the story of whale evolution, it is argued that plants evolved out of the sea, became highly successful on land, but some of them decided to go back to aquatic life, even into saline conditions. Meanwhile, many of the larger algae continued in the sea for hundreds of millions of years without evolving at all!



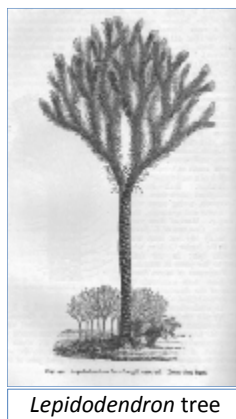
Mangrove tree in Florida
©www.stockphotosecrets.com

According to evolutionary theory, the Angiosperms appeared late in the fossil record, but their ancestry is still totally obscure, as Darwin himself agrees:

Darwin, writing in 1879, to Sir Joseph Hooker, said: “The rapid development as far as we can judge of all the higher plants within recent geological times is an abominable mystery,” and so it has remained until a year or so ago. [...] Throughout the whole of the Tertiary period Angiosperms were abundant; in fact, they were dominant all through those long ages, much as they are now. They were a varied class of plants throughout, and a great number of our living families have been recognised with more or less certainty; Monocotyledons and Dicotyledons are alike represented, the latter, as at present, being much the more numerous. [...] Birches, Beeches, Oaks, Walnuts, Planes, Maples, Hollies and Ivies, with many other familiar trees and shrubs, have been described from the Upper Cretaceous rocks. [...] In the Upper Cretaceous beds of Japan, a number of petrified plant-remains, with their structure preserved, have lately been discovered by Dr Marie Stopes and Prof. Fujii. [...] When we get down to the Lower Cretaceous ... we find ourselves at the beginning of the Angiospermous history. Their remains are very rare in most beds of this age, but in two places, one in Portugal and the other in the State of Virginia, they are found in considerable numbers. They resemble various living plants, such as Poplars, Willows, Fig-trees, and Laurels; Monocotyledons are also present. In the beds just below, Angiosperms are altogether absent, so we seem to have got back to their first appearance, and indeed, there are no older trustworthy records of this class of plants in any part of the world. This apparently sudden appearance of quite well-developed Flowering Plants is still, perhaps, the greatest difficulty in the record of evolution.²⁷

Modern texts list and illustrate many examples of plant fossils, in most cases not only recognisable in type from modern representatives, but often noted as remarkably similar to them in form, and world-wide in distribution. However, in some ‘eras’, certain plants attained far greater size than modern survivors, and many contributed to the coal measures. Examples include *Lepidodendron*, found across Europe and North America, having roots, leaves, bark and cones, with trunks up to 30m in height.²⁸ Giant horsetails such as *Calamites* also grew worldwide up to 30m high.

Impressions of fern fronds are some of the commonest fossils of plants, but many cannot be classified accurately unless sporangia are apparent. Conifers are abundant in Jurassic and Cretaceous rocks; over 100 species of pines have been identified across the



Lepidodendron tree

²⁷ Scott, D.H., *Ibid.*, pp. 38-40. This is, of course, the same Marie Stopes (1880-1958) who campaigned for women’s rights, birth control and eugenics, but she had researched and taught paleobotany at London and Manchester Universities, and took a special interest in coal.

²⁸ Figuier, L., *The World before the Deluge*, Cassell, Petter and Galpin (1872), p. 135. Drawing of *Lepidodendron sternbergii*, restored from fossil evidence (Forty feet high).

northern hemisphere. “The appearance of the recent genus *Pinus* (pine) differs little from its ancestors dating from the Mesozoic and Tertiary.”²⁹

‘Living fossils’ not so rare, and far from extinct

It has also been recognised since Darwin’s day that amongst both plants and animals most orders of fossils are still found today within the realm of the living. This statement is confirmed by no less a Darwinist than Thomas Huxley, ‘Darwin’s bulldog’, who addressed the subject of ‘Geological Contemporaneity and Persistent Types of Life’ to the Geological Society of London in 1862, expressing his surprise, nay astonishment, at the evidence of “the positive data furnished by the fossil world” –

There are two hundred known orders of plants; of these not one is certainly known to exist exclusively in the fossil state. The whole lapse of geological time has as yet yielded not a single new ordinal type of vegetable structure.³⁰

As far as animals are concerned, Huxley reckons that no more than 10% of fossil animal orders are not found among the living, and there are none in a distinctly different class. And, drawing on the authority of Dr Hooker,³¹ he gives examples of Carboniferous plants,

... which appear to be generically identical with some now living; that of the cone of the Oolitic *Araucaria* is hardly distinguishable from that of an existing species; that a true *Pinus* appears in the Purbecks and a *Juglans* in the Chalk; while, from the Bagshot Sands, a *Banksia*, the wood of which is not distinguishable from that of species now living in Australia, had been obtained.³²

After citing further animal examples, he concludes:

It is useless to multiply these instances; enough has been said to justify the statement that, in view of the immense diversity of known animal and vegetable forms, and the enormous lapse of time indicated by the accumulation of fossiliferous strata, the only circumstance to be wondered at is, not that the changes of life, as exhibited by positive evidence, have been so great, but that they have been so small.³³

It is not feasible here to discuss all the speculations that evolutionists have devised to try to explain how plants might have evolved. For the Angiosperms, a popular theory involves linking the development of flowers with the

²⁹ Ivanov, Hrdlickova & Gregorova, *The Complete Encyclopedia of Fossils*, Rebo Publishers (2001), p. 28.

³⁰ Huxley, T., *Lectures and Lay Sermons*, Dent & Sons (1910), p. 32

³¹ Sir Joseph Hooker (1817-1911), Director of Kew Gardens 1865-1885.

³² Huxley, op.cit., p. 33

³³ *Ibid.*, p. 35

evolution of insects, as there is clearly much evidence of their interdependence in relation to pollination mechanisms, though there are many angiosperms that have flowers well adapted for wind pollination. However, the fact that so many fossil genera, supposedly 100 million years old, could be identified by comparison with living forms just shows that no significant evolution has occurred over that time. Although the relative abundance of the different vascular plants has changed over the years, most of the groups are still represented today. Some are termed ‘living fossils’ because it was expected that they should have died out millions of years ago! These include the ginkgo tree and the Wollemi Pine.



Ginkgo leaves
© Anthony Nevard

Specimens of the genus *Ginkgo* have been identified dating from the upper Triassic, and impressions of the leaves are widespread throughout the world. The leaves of the species *Ginkgo adiantoides* cannot be distinguished from the present-day *Ginkgo biloba*.³⁴

The misnamed *Wollemia nobilis* is a genus of coniferous tree in the family Araucariaceae, and is not in the pine family. Fossils are said to date back 200 million years, but specimens were discovered in a rainforest in New South Wales in 1994. Promotion of this rare plant to conserve it in botanical gardens has since led to its availability to gardeners worldwide. Thanks to my wife’s cultivation skills, both plants illustrated are hardy potted specimens in our garden in St Albans!



Wollemi tree
© Anthony Nevard

Petrified polystrate trees and coal

Another big problem for evolution theory is the existence of petrified forests and polystrate trees. These are evidence that their burial must have been rapid and under water-borne material. Where long tree fossils are found spanning several layers of rock strata, this implies that the age of these layers cannot possibly be measured as millions, or even thousands, of years.



Petrified forest, Arizona

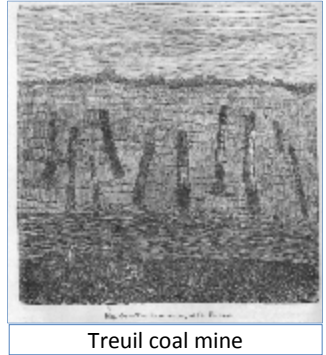
Examples of these were described at some length by Lyell in his *Principles of Geology*, a book that much influenced Darwin’s views, for example:

³⁴ Ivanov et al, op. cit., p. 26

In 1844, in what is called an open work at Parkfield Colliery, near Wolverhampton ... the stumps of no less than seventy-three trees with their roots attached appeared ... some of them more than 8 feet in circumference. The trunks, broken off close to the root, were lying prostrate in every direction, often crossing each other. One of them measured 15, another 30 feet in length, and others less. They were invariably flattened to the thickness of one or two inches, and converted into coal.³⁵

In another text by Rev. Thomas Milner, of the 1840s, we read:

Brongniart long ago described a remarkable example in the Treuil coal-mine near Etienne, in the department of the Loire, of which the figure is a view. The coal formation in this place offers a circumstance favourable for observation, being situated in such a manner that it can be worked in open day as a quarry, of which we have no instance in England. The mine presents a series of alternating beds of schistose clay, ironstone, coal and micaceous sandstone in which numerous stems occur, placed vertically, traversing all the strata, of which the view annexed shows only a very small proportion. It is a true fossil forest, as it were petrified in place.³⁶



Treuil coal mine

Coal was formed from the effects of high pressure and heat on partially decomposed plant matter, resulting in its high density and compact state. Some coal deposits contain the remains of fish, indicating that the vegetable material was laid down under water. This is also indicated in those places where there are strata of limestone, formed from the massed shells of sea creatures. Clays and sandstone layers are also commonly found. We know from experimental evidence that under suitable conditions coal does not take millions of years to form. In many regions of the earth, including Germany, Russia, China and Australia, there are also vast deposits of 'brown coal', or lignite, that is less dense than coal, contains more water and is usually less overlain than black coal.³⁷ An alternative explanation is offered here as a better fit with the facts:

Coal and oil are the obvious result of the activity of Noah's Flood. During the Flood of Noah (about 4,350 years ago) great amounts of superheated water came up out of the earth and mixed with the waters that were on the surface and those that rained down from above. In addition, the hot rock and hot ash from thousands of volcanoes

³⁵ Lyell, C., *Student's Elements of Geology*, John Murray (1874), p. 391.

³⁶ Milner, T. *The Gallery of Nature: a Pictorial and Descriptive Tour Through Creation, Illustrative of the Wonders of Astronomy, Physical Geography and Geology* Orr & Co., (1846), p. 704

³⁷ An interesting account on coal can be read online: <https://en.wikipedia.org/wiki/Lignite>

was available to generate many layers of heated sedimentary materials. Ground makes a very good insulator capable of maintaining heat for long periods of time.

At the beginning of the Flood thousands of volcanoes mowed down forests all over the world. Volcanic ash fell on top of huge floating log mats. When those log mats were buried in-between the heated sedimentary layers deposited by the Flood, coal and oil were formed in a short amount of time.³⁸

The same article also refers to research by Argonne National Laboratories published in 1984 claiming that coal had been made in 36 weeks!

In an article published in *Organic Geochemistry* Vol. 6:463-471, 1984 (*Oxidative Degradation Studies and Modern Concepts of the Formation and Transformation of Organic Constituents of Coals and Sedimentary Rocks*, Ryoichi Hayatsu, Randall E. Winans, Robert L. McBeth, Robert G. Scott and Leon P. Moore, Chemistry Division Argonne National Laboratory, Argonne, IL 60439 USA.) it was reported that all that was required for coal to form was that wood with kaolin clay as a catalyst must be buried deep enough that there is no oxygen, with a ground temperature of 150 degrees Celsius, and you will get coal in only 36 weeks. Further, it was noted that if the temperature were higher, the coal would form faster.³⁹

A further point of interest is mentioned in Figuier's book:

The frequent presence of carbonate of iron in the coal-measures is a most fortunate circumstance for mining industry. When the miner finds, in the same spot, the ore of iron and the fuel required for smelting it, arrangements for working them can be established under the most favourable conditions.⁴⁰

This was doubtless of great benefit to the Industrial Revolution in Britain.

Contrasts in life-cycles among plant classes

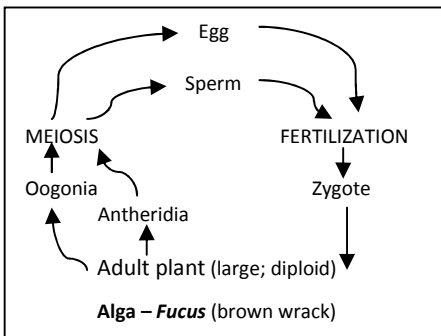
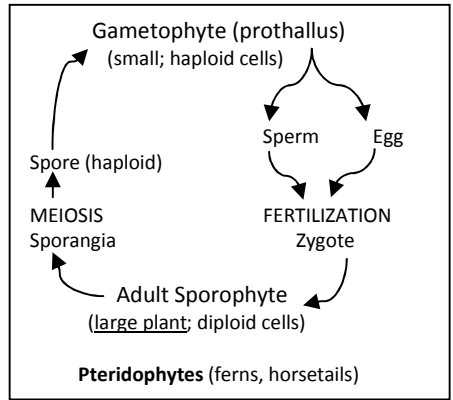
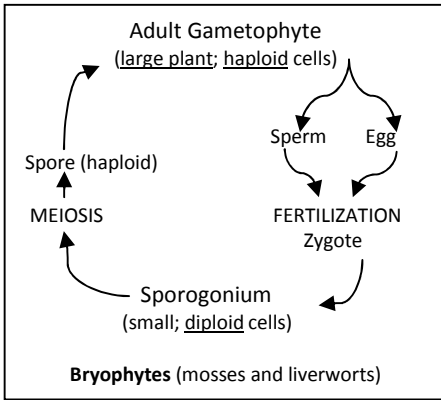
Returning to the question of plant evolution, the issue of contrasting life cycles has been a major stumbling block. This may require some further explanation for readers who did not take 'A' level biology at school. In sexual reproduction in most animals, the male and female gametes contain unpaired sets of chromosomes in their nuclei, and are said to be haploid. After fertilization, when the cell contents have fused, the zygote has restored the normal adult paired chromosomes and is diploid. Normal cell division (mitosis) follows to form the embryo and eventually the adults. Later, in the sex organs, a special 'reduction division' (meiosis) takes place to produce haploid gametes.

³⁸ *The Rapid Formation of Coal and Oil*: see Creation World View website https://www.creationworldview.org/articles_view.asp?id=51

³⁹ <https://www.sciencedirect.com/journal/organic-geochemistry/vol/6>

⁴⁰ Figuier, op. cit., p. 165

Among plants, there is much variation of this process. Here are simplified diagrams to illustrate a few examples and help explain the main problem:



There are exceptions in each division to the cycles shown here, but in general the dominant (larger plant) generation in Bryophytes have haploid cells, whereas in Pteridophytes the dominant generation is diploid. They are virtually opposites, and it is very hard to imagine a selection process to change one into the other. The algae have a wide range of different life cycles, but the Fucoids might be

considered more 'advanced' as they have a dominant diploid phase producing male and female cells, more similar to seed plants. Very puzzling all round!

The situation on plant evolution in the 21st century

We began this article by quoting from a book published 100 years ago, and referred to texts by Lyell and Darwin from Victorian times. Despite much research, including modern biochemistry, genetics and dating techniques, the problems raised by Dukinfield Scott are still largely the same nowadays. Jerry Bergman wrote a well documented article published in 2002 entitled *The evolution of plants: a major problem for Darwinism* ⁴¹ He stresses the difficulties firstly in categorising 300 different groups of flowering plants:

⁴¹ From *CSF Technical Journal* Vol. 16:2, August 2002, p. 120
https://creation.com/images/pdfs/tj/j16_2/j16_2_118-127.pdf

In the past decade alone, at least 15 phyletic trees of flowering plant lineages have been published... The fossil record shows stasis [*no change*] and extinction, while evidence for evolution of all the major plant groups is totally lacking.

Despite an enormously large fossil record, no known living or fossil forms have been found to link any two of the 19 divisions of the plant kingdom. Numerous quotations from evolutionists admit that the problem of the origin of angiosperms remains, as Darwin noted, ‘abominable.’ Other key steps in the transformist hypothesis must have included: the evolution of archaic bacteria; the process of photosynthesis and the first oxygen-producing plants; chlorophyta with organised chloroplasts; psilophyta having true stems; filicophyta with true leaves; gymnospermae, the first true seed plants. There has been much speculation but no agreement or supporting fossil evidence.

It was hoped in the early 20th century that the discovery of mutations might hold the key to the origin of genetic diversity, but a century of research has shown that mutations essentially involve damage and loss of information, and are neither positive nor creative. Geneticist Professor Maciej Giertych explains:

There was a time when it was held that promising results would be attained through mutagenesis. Three forest laboratories known to the author (US, Swedish and Czech) had tried to hasten evolution with the help of a cobalt bomb so as to produce new interesting forms. These attempts have been abandoned long ago... If the mutagenic environment causes the production of positive mutations, they are lost in the multitude of negative ones.⁴²

Paleontology has failed to demonstrate that plants evolved, and genetics fails to provide a mechanism for it. But, as H.G. Wells candidly explained in the 1930s, when you have learned to *believe* in Evolution because you think the evidence from animals proves it, then you *have* to believe that plants evolved, even though there is no evidence for it! Wells was also famous, of course, for writing much science *fiction* – and that could describe much of what passes for putative explanations of plant evolution nowadays, seeing that they are based on made-up stories, not facts. It therefore still seems appropriate to conclude with this famous comment by Cambridge Professor E.J.H. Corner (1906-1996):

Much evidence can be adduced in favour of the theory of evolution – from biology, biogeography and palaeontology, but I still think that, to the unprejudiced, the fossil record of plants is in favour of special creation.⁴³

⁴² Giertych, M. *Evolution, Devolution, Science*, www.giertych-wydawnictwo.pl, (2016) p. 21

⁴³ Corner, E.J.H., *Evolution*; in: MacLeod, A.M. and Cobley, L.S., *Contemporary Botanical Thought*, Quadrangle Books, Chicago, pp. 95–114, (1961) p. 97.

(This statement of Corner is also included in a lengthier quotation in *Daylight* No 48, pp. 2-3.)

THOUGHTS OF OUR FOREFATHERS

From *Evolution, the Stone Book, and the Mosaic Record of Creation*

By **Thomas Cooper** (1878)¹

If the founders of the Royal Society — Sir Christopher Wren, and the Hon. Robert Boyle, and John Ray, the author of that good old book “The Wisdom of God in the Creation,” and their associates, could live again, and be joined by our illustrious Newton — such truly reverential men could not fail to express their deep mortification and sorrow, at the perverse attempt of so many scientific men of our time, to revive the Atheistic philosophy of the worst schools of ancient Greece.

The men who are considered to be the leaders in Science of the present day make it no secret that they throw the Design Argument, or Doctrine of Final Causes, to the winds. They tell us, without concealment, that they have ‘done with teleology’ — for they can discern no proof of design, or contrivance, or purpose, either in the living or inorganic world. They maintain that what we deem to be evidences of design and contrivance and purpose in Nature — and, therefore, proofs of the existence of the Creator — are, simply, the outcome and result of the action of the unconscious and eternal forces of matter. It is, they affirm, by the unconscious action of these forces, that the molecules and atoms of matter came to take their present forms. It may be very agreeable employment for our emotional nature, Professor Tyndall thinks, to be religious; but science, he assures us, teaches him no religion, and reveals to him no personal God. A personal God is unthinkable, says Herbert Spencer. And other scientific men do not conceal from us that they have similar convictions.

All this, be it remembered, is *new*, in our country. In the past time, when Hobbes and Hume, and some lesser men, intellectually, were busy in sowing the seeds of Unbelief, they were not countenanced, but opposed, by contemporary Englishmen who were foremost in scientific enquiry and discovery. Nor did the sceptical plague which afflicted France in her great revolutionary struggle extend its contagion to the scientific mind of this land. Well-nigh half of this our Nineteenth Century was past before the English public became aware, by the tentative issue of what were deemed, at first,

¹ Hodder & Stoughton (1880), pp 2-12

(Punctuation retained as in original text, apart from paragraphing style). Ed.

‘curious speculations in Natural History,’ that some of our students and professors of Science were bent on the promulgation of views which must tend to the subversion of both Natural and Revealed Religion.

Since the history of these ‘curious speculations’ is the history of the Theory of Evolution, it will, now, be my duty to set it before you in as concise and lucid a manner as possible. A few words, however, must first be said on what already passed in France.

DE MAILLET AND HIS THEORY—LINNAEUS AND HIS
‘SYSTEMA NATURAE’ — LAMARCK AND ST. HILAIRE
— CUVIER AND PALAEOLOGY.

In the year 1748, a French writer, named De Maillet, tried to persuade his fellow-country-men that plants and animals were not special creations of God, but only spontaneously modified forms of ‘Nature.’ The influence of the beautiful and reverential spirit of Linnaeus preserved men of science from adopting De Maillet’s theory; and the French public, of that period, only treated it with ridicule.

In the early part of this, our nineteenth century, three remarkable Frenchmen may be said to have created a new era in Natural History: Lamarck, who took up the theory maintained by De Maillet, and maintained the doctrine of ‘Transmutation of Species’ — Geoffroy St. Hilaire, who leaned to the notions of Lamarck — and Cuvier, that greatest of all zoologists, who, like Linnaeus, maintained the truth of the Design Argument, and that all descriptions of living beings are the special creation of God. Lamarck had made the lowest animal forms his special study — such as the sponges, the jelly-fishes, the corallines and other zoophytes, and the shell fish; and the likeness among them seemed, to him, to show that one animal form had passed into another, and that higher animal forms had been ‘transmuted’ out of lower forms. His friend, Geoffroy St. Hilaire, inclined to take the same view, from his close observance of what is called ‘Homology,’ or the close resemblance of all the vertebrate animals, in the general plan of their construction — a resemblance, by the way, which our own countryman, the illustrious John Hunter, was wont strongly to insist upon.

Lamarck contended that the exertion of their desires was a great cause of the difference in the forms of some animals. He instanced the Swan and the Giraffe, as proofs of his doctrine of “Transmutation of Species.” The progenitors of these creatures, he contended, had as short necks as other creatures; but, by the exertion of the bird to get food at the bottom of a stream,

and of the beast to gather leaves from high trees in the barren seasons of a torrid clime — the twain had lengthened their own necks, in the process, it might be, of many hundreds of thousands of years. So also, he thought, the gallatores, or wading birds, — such as the Crane and the Heron, — have lengthened their own legs, by persistency in going deep into the water, for their prey; and the swimming-birds have originated the webs between their toes, by persistent attempts at swimming — also, in the process of unreckonable years.

Cuvier threw all his strength into the opposite views. He had, early, been a diligent student of human anatomy, and had extended his studies to the anatomy of the lower animals. He thus reached a firm conviction, which was never shaken, that there was supremely intelligent *purpose* in all the creation. The fact that every animal was fitted to get its own living, and to take care of itself and its species; — that one part of an animal was so evidently adapted to the other parts, that seeing a part of an animal — a bone, or a tooth, — he could judge of what species or family the animal was — seemed conclusive evidence to Cuvier that God had separately and specially created each animal race, upon the earth.

He remodelled the system of Linnaeus, with a bold but reverent hand; and, in doing this, he assigned the elephant, rhinoceros, hippopotamus, tapir, swine, horse, zebra, ass, and a few other animals, into a separate order: the ‘Pachydermata,’ or thick-skinned animals. Pondering on the fact that they were so few in number, he thought there must have been more of them at one period; and then, guided by his profound skill in Osteology, or the science of the bones, he discerned that there were spaces — so to speak — between several of the species composing this order of the Pachydermata, for other species of such and such a form. Shall we call it prophecy, when he said such animals might be found? No: it was *true science* derived from an intelligent and devoted study of the Creator’s plans — for the petrifications of the very creatures he had described, from wise and skilful foresight, were, soon after, found, in the gypsum quarries of Montmartre, outside Paris; and he had the gratifying task of arranging them, for the Museum, with his own hands.

Cuvier, by thus founding the sub-science of Paleontology (or discourse of ancient animals) may be considered as the real founder of Geology; for that great science, by his discoveries, grew into real importance in the eyes of men of science. Cuvier’s name not only became the great name in zoology but all the elder geologists of our own country, — Buckland, Sedgwick, and the rest — ranged themselves under his banner, as believers in ‘Final Causes,’ or the doctrine of separate and special creations. It was otherwise in Germany. Goethe

had already given hints that he suspected a derivation of man from the animals; and Oken and the Physiophilosophers had broached views utterly unlike those of Linnaeus and Cuvier. But it was not known, until the year 1844, that the theory of Lamarck had any real disciples in England.

‘VESTIGES OF THE NATURAL HISTORY OF CREATION’
AND THE THEORY OF DEVELOPMENT.

In that year, a book of a popular character was published, which may be said to have startled all sorts of people, scientific and unscientific. It was entitled ‘Vestiges of the Natural History of Creation.’ I went from Stafford prison to live in London, and commence authorship, in the year after that in which this book was published; and shall not soon forget the excitement there was among literary people, about this book. ‘Have you read the Vestiges?’—‘What do you think of the Vestiges?’—was asked on every side. Who wrote the book—was a profound secret; and for aught I know, it is a secret yet. Robert Chambers of Edinburgh was loudly charged with its authorship; but denied it.² Dr. Neil Arnott, and other scientific men, — and even Lord Byron’s daughter, Ada, the Countess of Lovelace, — were also charged with the authorship of the ‘Vestiges’ but all denied it. Of course the book had an author; but I am not able to tell you his name. In this book, what is called the ‘Development Theory’ was openly maintained. Unlike Lamarck, who was an atheist, this author, with expressions of reverence, acknowledged the existence of the Creator; and maintained that this theory of the ‘development’ of one plant out of another, and of one animal out of another, in conformity with a divinely appointed law of advancing improvement, was as worthy an idea of the Almighty Maker’s way of creating, as our common idea of special and separate creations.

‘Equivocal’ or ‘Spontaneous’ Generation, however, seemed to be an article in the belief of the author of the ‘Vestiges.’ Some of you³ may be old enough to remember the noise that was made, about that time, concerning the experiments of Mr. Crosse, in electricity and galvanism. It was affirmed that Mr. Crosse had made an insect, and it was proposed to call it the ‘Acarus Crossii, in honour of its scientific maker! Poor Mr. Crosse publicly avowed his utter innocence of any such creation, and affirmed he had seen the ‘Acarus’ in question many a time before he beheld it in the alkaline solution made use of in his galvanic

² Robert Chambers (1802-1871) was in fact the author, as was revealed in 1884 in the 12th edition of *Vestiges*, published by Alexander Ireland. *Ed.*

³ The book “contains the substance of Three Lectures which have been spoken in nearly every part of England” Cooper, op.cit., Preface.

experiment. It was said he gave up his study and his experiments, in disgust with the use which had been made of his name. But Mr. Weekes took up the study; and his experiments were understood to strengthen the advocates of ‘Spontaneous Generation.’ The author of the ‘Vestiges’ evidently inclined to their side; and, very soon, some of the reviews declared that he was only a concealed atheist. Indeed, so little apparent encouragement was given to the ‘Development’ hypothesis by the press and the public, and so slight patronage seemed to favour it from men of science, that it was supposed we should soon hear no more of it. [*extract from book ends here*]

* * * * *

Cooper goes on to describe the publication of Darwin and Wallace’s papers on ‘The Origin of Species’ in July, 1858. He then summarises the contributions of Professor Thomas Huxley, Sir Joseph Hooker, Professor Tyndall and Herbert Spencer in supporting and promoting Darwinism. However, he stresses that Spencer was convinced that Darwin attributed too much to Natural Selection; Spencer admitted Lamarck’s theory and, starting with the Nebular Theory of Laplace, proposed a grand theory that he (not Darwin) called ‘*Evolution*’. Later ‘converts’ included Dr Asa Gray, the American botanist, though he did retain belief that evolution was guided by God. The German philosophers showed Darwin that his theory was atheistic. Carl Vogt claimed:

“Man is not a special creation, produced in a different way, and distinct from other animals, endowed with an individual soul and animated by the breath of God; on the contrary, man is only the highest product of the progressive evolution of animal life springing from the group of apes next below him.” [p.23]

The same line was taken by Haeckel, ‘chief naturalist of Germany,’ showing that ‘evolution’ leads to gross materialism, the denial of the design argument, and of God’s existence. (Sounds familiar?) Cooper demands: “But where are the facts?” Since they cannot claim that Evolution had witnesses, Darwinians cite examples of selective breeding – roses, pigeons, dogs. Cooper responds:

“This is all VARIETY: it is *not* Evolution. But we need none of your petty array of the instances of Variety. Variety is the stamp and the seal God puts upon all He does in Nature.” [p.27]

Part 2 looks at geology and demonstrates its failure to support Evolution or have any reliability for the age of the Earth: “the facts of geology give no evidence as to time.” [p.117]. Part 3 is on “The Mosaic Record of Creation.

The writer’s incisive and entertaining style cuts to the core of the origins controversies of the late nineteenth century, clearly demonstrating the fact that these same arguments, and their rebuttals, are still alive and well in 2018! *Ed.*

Of Animal Disease and Man ¹

Howard Law-Thompson



In recent years Britain, Europe and America have been swept by a variety of animal diseases and the zoonotic ² diseases people catch from animals, ranging from Schmallenberg disease ³ to avian influenza [‘bird flu’]. These almost invariably originate in intensive ‘factory farms’ before being spread by the trade between more and less intensive operations until, in the worst cases, wildlife become infected, establishing a reservoir of disease. ⁴ ‘Factory farms’ confine the beasts of the field and the fowls of the air within barns and cages, violating their God-given nature and, therefore, our duty to rule over them (Gen. 1:28) in a manner fulfilling our vocation to reflect and participate in the divine action. The seriousness of this violation of nature is made clear when we understand that the nature of each creature is a reflection of some aspect of its divine Creator, such that creation in its entirety presents an image of the Creator summed up in mankind, the head of creation (St. Bonaventure *Collationes in Hexaemeron*, cf. St Thomas *Summa* 1.44.4, 1.65.2). That each creature reflects in its nature aspects of the richness of the divine nature of its Creator, that it is a word of God contained within the Word is made clear in Col. 1:16 “For in Him were all things created in heaven and on earth, visible and invisible, whether thrones, or dominations, or principalities, or powers. All things were created by Him and in Him,” and emphasised by the repeated statement in the creation accounts that “God saw that it was good,” which is to say that it participates in His own quality of goodness. It follows from this that to prevent the creature from the exercise of its nature is to curtail the showing forth of a measure of God’s goodness and glory and is, therefore, an offence against Him. Because mankind stands at the head of creation the moral health of humanity is always liable to be reflected in our natural surroundings, although it is also clearly true that sins against nature bring about their own retribution.

¹ Parts of this article have previously appeared in *The Ark* [*Journal of Catholic Concern for Animals*].

² Zoonosis = a disease of animals communicable to man e.g. rabies, salmonellosis. [*Ed.*]

³ An RNA virus causing birth defects and stillbirths in cattle, sheep, etc., in western Europe, first identified in 2011 and thought to be transmitted by midges. [*Ed.*]

⁴ Picture credit © www.stockphotosecrets.com (chickens, not necessarily in a factory farm.) *Ed.*

The presence of such diseases amongst us calls us to a reflection upon the prayers which the Church offers for these occasions, which were originally intended to apply to the case of draught and other working animals, rather than food animals, let alone pets and wildlife.

Deus, qui laboribus hominum, etiam de mutis animalibus solatia subrogasti, supplices te rogamus, ut sine quibus non alitur humana conditio nostris facias usibus non perire.

O God, Who even by the comforting aid of dumb animals dost lessen the toil of man, grant we humbly beseech Thee, that there may not be lost to us the use of those without which the human condition cannot be sustained.

Of course, at a stretch, despite its original purpose as a prayer for draught oxen and beasts of burden, the Collect can be applied to these other cases; and it is legitimate so to apply it, because, whatever their practical origins, the prayers and ceremonies of the liturgy are the expression of the Church visible, binding it into the mystical Body of Christ. They are, therefore, freighted with the entire spiritual and theological treasury of the Church down the ages; the humble house, as it were, from which the householder may bring forth things both new and old.

Now, there is quite plainly no difficulty in seeing that our treatment of food animals constitutes ‘use’ within the normal meaning of the word. However, if we would extend the use of this prayer to our pets or to wild animals, then we will have to look at the wider meanings of the words *labor* and *usus*; and when we do so, the richness of the treasury open to us becomes apparent. The word *labor* can generally be translated as ‘toil’ or ‘labour’, and the verb *laboro* as ‘I work’; but ‘need’, ‘fatigue’, ‘necessity’ and ‘hardship’ are alternative meanings, and classical authors contrast the state of being *in labore* with being *in honore*. *Laboro* may mean ‘to strive’, ‘to suffer’ or ‘to be in danger’. In short, *labor* is the state in which fallen man is ever to be found:

... maledicta terra in opere tuo: in laboribus comedes ex ea cunctis diebus vitae tuae. (Gen. III, Wed. after Septuagesima, Matins 3rd Lesson)

... accursed is the earth in thy work; in hardships shalt thou eat of it all the days of thy life.

The noun *labor*, incidentally, is not now thought likely to be related to the verb *labor*, ‘to slip or fall down’, from which the word ‘lapse’ derives, but the inseparable link between our labour and the Fall excuses those patristic and mediaeval authors who thought that it was.

The way in which the verb *subrogo* is used in this collect is somewhat different from the classical norm; its normal meaning is ‘to cause one person to be substituted for another’, generally in the context of holding public office (even if, although the late John Mortimer’s Mr Rumpole would not have admitted it, there really is a difference between an ass and a magistrate!). This meaning can stretch to encompass the notion that God lessens the toil of man by giving us beasts to bear burdens beyond our strength. However, in later writers *subrogo* and the variant *surrogo* are corrupted to mean ‘to substitute’, ‘to provide assistance’, ‘to aid’ and even simply ‘to grant’ – whilst apt to give a classicist apoplexy, this last meaning is sometimes found in Church Latin.

The word *usus* can generally be translated as ‘use’ or ‘usefulness’, and the verb *utor* as ‘to use or empty’ or, sometimes, ‘to enjoy’ – moralists contrast *uti*, ‘to use as a means to an end’, with *frui*, ‘to enjoy as an end in itself’. However, *usus* can also be translated as ‘familiarity’ or ‘social intercourse’ or else as ‘usual practice’ and *utor* can be rendered as ‘to have’, ‘to associate or be intimate with’, or ‘to live on or make a living from’.

Considering these variant translations allows us to understand the Collect, and a celebrant priest to offer it, as meaning:

O God, Who grantest aid to fallen man in his hardships even by the consolations of dumb animals, grant, we humbly beseech Thee, that the companionable association of those without whom the human condition cannot be supported may not be lost to us.

Whatever the specific context in which these prayers are to be offered, and the way in which the collect has to be applied to it, we are struck by the term *humana conditio* and the suggestion that ‘human nature’ or ‘the human condition’ cannot be supported or sustained without the animals for whom we pray. At the most basic level, this refers to our physical frailty as creatures of flesh and blood, depending upon animals for food and (in a non-industrial economy) labour. Yet this extraordinary phrase, which, if it is not unique to this prayer in the liturgy, is certainly extremely rare, invites a deeper reflection, suggesting as it does that man is not man without the company of beasts; our nature is ‘sustained, supported or nourished’ (*alitur*) by them, and *in labore* they are our consolation and relief (*solatia*, a word Ovid uses of birds as the consolars of nature’s desolation, “*aves, solatia ruris*”). If *labor* calls to mind the fallen state of man and the third chapter of Genesis, this relationship between man and beast rests upon their having been created for the sake of man to be his helpers like to himself, although Adam found none to be his helpmeet:

Non est bonum esse hominem solum; faciamus ei adiutorium simile sibi. Formatis igitur, Dominus Deus, de humo cunctis animantibus terrae, et universis volatilibus caeli. (Gen. II, Tues. after Septuagesima, Matins 1st and 2nd Lessons.)

It is not good for man to be alone; let Us make him a helper alike unto himself. The Lord God therefore formed from the earth all the animals of the land, and all the birds of the air.

And also upon the creation of man in the image of God:

Faciamus hominem ad imaginem et similitudinem nostram: et praesit piscibus maris, et volatilibus caeli, et bestiis, universaeque terrae, omnique reptili, quod movetur in terra. (Gen. I, Septuagesima, Matins 1st Lesson; Holy Saturday, 1st Prophecy at Easter Vigil.)

Let Us make man to Our image and likeness; and let him govern the fish of the sea, the birds of the air, and the beasts, and the whole earth, and all the reptiles which move upon the earth.

These passages deal with the period prior to the Fall; in the first chapter of Genesis we learn that man is made to the image and likeness of God, and that, as an integral part of his nature as the divine image, man exercises dominion over all other creatures, reflecting and participating in the divine action. The second chapter affirms that man was placed in the Garden of Paradise to work and care for it; and that, whilst the other creatures are like ourselves, they are not equal to us — it is given to Adam to name them, to exercise his authority over them through language and the use of reason, thereby demonstrating the Godlike character with which he had been created and distinguishing himself from the dumb animals created for his benefit.

When we contrast Adam in his original justice with fallen man, we see a great gulf between the perfection of nature and wealth of supernatural graces in our first father and our own sorry state; we see also a corresponding gulf between the pristine creation and the state of nature fallen (‘made subject to futility’) in the fall of Adam. Yet the animals (and, indeed, the rest of creation) remain with us for weal or for woe, bridging that gulf — in our continuing relationship with them we are enabled to fulfil the natural vocation of man, that of representing God to His creation — by remaining subject to man they allow us to continue our participation in the divine dominion over creation. Thus, man is indeed made man by beast, because the divine likeness intrinsic to the nature of man is realised only in his relations with beast and fowl, and in the working and

tending of the land. One recalls the Jewish philosopher Emmanuel Lévinas' ⁵ charming essay on Bobby the Kantian dog (published in *Difficult Freedom: Essays on Judaism*) who restored to humanity labour camp prisoners who had been reduced to a bestial condition by their Nazi guards, by the friendly manner in which he recognised and deferred to their God-given nature as people, as rational beings of a different order from his own.

Furthermore, in the distinctions between man and beast we are offered important insights into the meaning of the fall for ourselves. In the fall the nature of man was weakened, but it was not destroyed; reason and the freedom of the will inseparable from it were weakened, but they were not destroyed. In the dumbness (i.e. the non-rational nature) of dumb animals we are offered the solace of this truth. As St. Prosper of Aquitaine ⁶ so clearly teaches in the *Indiculus* (c.II), “unless He Who alone is good grants a participation in His being, no one has goodness in himself”, so that without prevenient grace we can merit nothing (c.IX), for both the will to and the performance of good are begun by God’s gift of participation, “for such is God’s goodness to men that He wills that His gifts be our merits”. Thus grace strengthens and restores the freedom of the will to turn towards God, assenting to and co-operating in His grace (cf. Tridentine Decree on Justification c.V), and to grow into an ever-deepening participation in the divine action. Because the will acts under grace, and not by the strength of its natural powers, in restoring man to the perfection of his nature, that perfection of nature is not the limit of man; for the order of supernatural grace culminates in the final participation – participation in the glory of the Godhead through our being joined with Christ as members of His Body. Such is our hope, and the pledge by which we may hope so to participate in divine sanctity, and hence divine glory, is our participation in divine reason and divine authority. Because husbandry and agriculture hold the grounds of our hope ever before us, they foster that supernatural virtue in us, as well as providing scope to bring that hope to fruition; consequently, the restorers of the Rule of St Benedict in the foundation of Cîteaux established agriculture as the principal form of labour for religious, and many saints and religious thinkers down to our own day have continued to set it forth as a Christian ideal (one

⁵ Lithuanian-born French philosopher (1905-1995) renowned for his powerful critique of the pre-eminence of ontology (the philosophical study of being) in the history of Western philosophy, particularly in the work of the German philosopher Martin Heidegger (1889–1976) (*Encyclopaedia Britannica*). [*Ed.*]

⁶ Early Christian polemicist (born c. 390, died c. 463, feast day July 7), famous for his defence of Augustine of Hippo and his doctrine on grace, predestination, and free will. [*Ed.*]

thinks particularly of the Dominican Fr. Vincent McNabb⁷). It is also notable in the lives of several saints that, nature being perfected in them by grace, they so perfectly reflected the loving goodness of God to His lesser creatures, that their authority over those creatures was as perfect as that of Adam (SS Francis of Assisi and Martin de Porres, of course, come most naturally to mind, but many a saint had an animal companion or at least one animal miracle to his or her name).

As we all know, the prayers of the Traditional Rite come in sets of three, each Collect having a Secret and Postcommunion to itself; sometimes these other prayers are closely connected to the Collect in form or content, or, if the prayers belong to a complete Mass, all three will echo the language of the chants or lectionary of the Mass; at other times, they will be what might be called ‘general-purpose’ prayers which have become attached to a particular collect simply through their having been copied together over several recensions⁸ of the Roman Missal. The Secret and Postcommunion ‘*pro peste animalium*’ of the Roman Missal are two such ‘general-purpose’ prayers. The Secret reads:

*Sacrificiis, Domine, placatus oblatis:
opem tuam nostris temporibus
clementer impende.*

Appeased, O Lord, by the sacrifice we offer, mercifully grant us Thy help in our days.

Curiously, the Postcommunion of the Roman use has the same opening phrase as that of the rather more relevant Dominican prayer (the same Secret is used in both missals) such that one might almost imagine an inattentive Roman clerk copying the wrong prayer by mistake.

*Benedictionem tuam, Domine,
populus fidelis accipiat, qua corpore
salvetur, et mente: et congruam tibi
exhibeat servitatem, et propitiationis
tuae beneficia semper inveniat.*
(Postcommunion, Roman Use)

May Thy faithful people receive Thy blessing, O Lord, by which they may be saved in body and spirit; and let them do Thee due service, and ever obtain the benefits of Thy clemency.

⁷ If any reader has not heard of Fr McNabb (1868-1943), Irish-born scholar, Dominican for 58 years, and prolific writer, may I suggest you refer to the article below to read what marvels can be achieved through God’s grace in a humble but redoubtable Catholic cleric. [Ed.]

https://en.wikipedia.org/wiki/Vincent_McNabb

⁸ *Recension* is the practice of editing or revising a text based on critical analysis. [Ed.]

Benedictionem tuam, Domine, populus fidelis accipiat, qua corpore salvetur, et mente: et animalium, quorum nostris demeritis saevit interitus, tua nobis parcendo clementia, eum cessare jubeas.
(Dominican Use)

May Thy faithful people receive Thy blessing, O Lord, by which they may be saved in body and spirit; and, sparing us by Thy clemency, order to cease the destruction of animals raging on account of our shortcomings.

This Dominican Postcommunion stresses the fact that the diseases of animals are directly related to the spiritual state of man; as I have said already, they are with us for weal or for woe. Animals fell, and were ‘made subject to futility’, in the fall of Adam, making them susceptible to disease; furthermore, specific diseases of particular animals are caused by the actions of particular people — this may well be due to such physical causes as shortcomings in husbandry, as seems to have been the case with the British foot-and-mouth epidemic of 2001, or the results of complex economic structures; on the other hand, where there is no such cause, there is still a link at a spiritual level, for there is a profound mystical link between all elements in the created order. Man, the head of creation, does not sin without the effects being felt throughout creation; and the salvation of man is not accomplished without that also comprising the reconciliation of all creation with its Creator:

For creation was made subject to futility, not of its own accord but because of the one who subjected it, in hope that creation itself would be set free from slavery to corruption and share in the glorious freedom of the children of God (Rom. VIII)

In his treatise on *The Sign of the Cross* Mgr. Gaume comments thus:

Material creatures, being incapable of either good or evil, are diseased only by resilience; they follow the condition of man. Man, being the centre and abridgment of the creation, encloses within himself all the laws which regulate inferior creatures. If he violates them, the consequences of his violation are felt by all nature. Witness the sin of Adam. To the like cause, reproduced in the course of ages, we must attribute the maladies of creatures, always in direct proportion to the cause which produces them. Does it not seem as if Isaias was looking forward to our epoch when he wrote: “The earth is infected by the inhabitants thereof. From thence tears, mourning, weakness of the earth, decay of the world, the malady of the vine, and the mourning of the

cultivators.” (XXIV.4 et seqq.) Habacuc, Jeremias and the other prophets speak in the same terms of this agony of nature. (Mgr. J.J. Gaume, 1862)

We should note also that it is we who are spared by the divine clemency when the animals are spared death from disease. In part, this is a reference to the loss of income and food or services provided by the animals (remembering the original context of draught oxen); but it may be taken to have wider implications than that. The primal vocation of man being to participate in the divine goodness and mediate that to the lower creation in his dominion over lesser creatures, our failures and the results of those failures in our dealings with other creatures and with the land that we are to work and to tend may be recognised as sins against our own nature as well as against the natural order that we offend — when we pray that our livestock, poultry, pets and wildlife be spared the effects of our sins, we pray, effectively, that we be not judged for our sins, as we should surely be found wanting were destruction to rage unchecked through these creatures entrusted to our care. Such prayers may certainly be effective; yet, as always when sins and their effects are remitted in confession and the receipt of an indulgence, there must always be both contrition and an intention to make reparation, and this demands an honest recognition of our faults. This is not the place to go into specific details, so let it be sufficient to say that when the birds of the air and the beasts of the field are confined to sheds by the thousand, and are exposed to abuse in those very sheds, their nature is violated, and with it ours, in the breaking of the companionable association God intended for man and animal — in short, both *usus* and *solatium* are lost to us by the action of man even before disease breaks out, and, in suffering infection to occur, God does no more than to remove a gift that has been rejected. As we reflect upon these prayers of the liturgy, the richness of that gift is unfolded before us, and we see the wisdom of Job’s teaching:

But ask now the beasts and they shall teach thee: and the birds of the air, and they shall tell thee. Speak to the earth, and it shall answer thee: and the fishes of the sea shall tell. (Job XII, 7-8)

N.B. At least in its English translation, the modern Missal contains no prayers for use in time of animal disease.

GDPR Many thanks to those of you who have returned the form enclosed with *Daylight 59*, confirming you are happy to continue on our mailing list. If not, please let me know by post/email asap, otherwise you may not receive further issues. T.Y.

The Persistence of a False ‘Scientific Dogma’

Philip Byron

I have been pondering on a short critique of Professor Bronowski’s ‘The Ascent of Man.’ In it he declaims and denigrates ‘Dogmatism’ in politics, ideology, religion etc., but at the same time he claims that science is free from ‘dogmatism’ because it is based on real facts. He did not seem to realise that the premises could be wrong, only to be superseded by further knowledge. Like many scientists, he claims knowledge and understanding which are outside the limits of their experience, as in the history of nature and cosmic development which are largely speculation about the unobserved past.

Along with Darwin, Bronowski maintains that competition is the driver of variation and development, but unlike Darwin he knows more about the role of genetics which is the principle of variation which supplants the role of competition. He was apparently unaware of the contradiction.

There is an interesting parallel in medicine. Galen, a Romanised Greek (131 AD), produced an anatomy based on the dissection of monkeys which lasted for over a thousand years. In it he maintains that blood flowed backwards and forwards in an ebb-and-flow manner. This was easily contradicted by observation, nevertheless his authority was maintained. Not until the 16th century was this challenged, first by Vesalius (1514-64) who produced a truly landmark anatomy based on human dissection and beautifully illustrated ‘*De Humanis Corporis Fabrica*’ (There is an actual copy of this in the Royal Berks Hospital library.) Later, Fabricius discovered the valves in veins. But it was left to William Harvey (1578-1657) to demonstrate the one-way flow of blood and the circulation of blood from the left side of the heart, and established for future anatomists what is known as the greater circulation.



So Bronowski expounds on the thoroughness of scientific method. But scientific method does not provide the premises for historical events. Newman’s theory of knowledge is clear on this point, i.e. that much of what we learn is taken on authority which can be more or less probable according to the extent of the limitations of our knowledge. I hope Darwin doesn’t last a thousand years!

[Picture of Vesalius book cover – www.wikipedia (in public domain).]

Plant References in Genesis

Creation Day III Genesis Chapter 1

11 And he said: Let the earth bring forth the green herb, and such as may seed, and the fruit tree yielding fruit after its kind, which may have seed in itself upon the earth. And it was so done.

12 And the earth brought forth the green herb, and such as yielded seed according to its kind, and the tree that beareth fruit, having seed each one according to its kind. And God saw that it was good.

Chapter 2

9 And the Lord God brought forth from the ground all manner of trees, fair to behold and pleasant to eat of: the tree of life also in the midst of paradise: and the tree of knowledge of good and evil.

The Curse of the Earth (Chapter 3)

17 ... cursed is the earth in thy work; with labour and toil shalt thou eat thereof all the days of thy life.

18 Thorns and thistles shall it bring forth to thee; and thou shalt eat the herbs of the earth.⁹



The Dove returns to the Ark (Chapter 8)

11 And she came to him in the evening, carrying a bough of an olive tree with green leaves, in her mouth. Noe therefore understood that the waters were ceased upon the earth.



Noe samples the 'fruit of the vine' (Chapter 9)

20 And Noe, a husbandman, began to till the ground, and planted a vineyard.

21 And drinking of the wine was made drunk, and was uncovered in his tent.

Separating Jacob's sheep by colours (Chapter 30)

37 And Jacob took green rods of poplar, and of almond, and of plane trees, and pilled them in part; so that when the bark was taken off, in the parts that were pilled, there appeared whiteness; but the parts that were whole remained green. And by this means the colour was divers.

Other references to plants include: 'straw and hay' (24:25) 'the turpentine tree' (35:4); 'the oak of weeping' (35:8); 'spices, balm and myrrh' (37:25); 'corn' (frequently, e.g. 41:22); 'balm, myrrh, turpentine, almonds' (43:11). [Ed.]

⁹ Thistle & olive/dove photos © www.stockphotosecrets.com



Patronal Statue in
WGC church

St Bonaventure – the Seraphic Doctor

1221 – 1274

Born in Tuscany, St Bonaventure was christened John, but at age four he became dangerously sick. His mother prayed to Francis of Assisi for his intercession; his prayer being answered, Francis cried out *O buona ventura* (*good luck*), whence the boy's adopted name. He entered the Order of St Francis in 1243, studying in Paris under Alexander of

Hales, and made great progress in philosophy and theology. He was elected general of the Order in 1256. In 1265, Pope Clement IV nominated Bonaventure as Archbishop of York, but he pleaded not to be given that burden. He retreated to Paris where he wrote the *Hexaemeron*, a pious exposition of the **Six Days' work of Creation**. In 1274, the holy Pope Gregory X ordained Bonaventure as bishop and cardinal of Albano; he was to take a leading part in the Council of Lyons, but he fell ill and died on July 14th (which became his Feast Day). He was canonized by Sixtus IV in 1482. Despite his personal mastery of deep spiritual life, he places Christian virtue in simple terms:

“The best perfection of a religious man is to do common things in a perfect manner. A constant fidelity in small things is a great and heroic virtue.”



St Bonaventure,
Welwyn Garden City,
Hertfordshire

St Bonaventure explicitly affirms the special creation of Adam and Eve:

Catholic Faith requires this to be held regarding the human body at its original formation: the body of the first man was formed in such a condition, and was formed from the clay of the earth, that it should nevertheless be both obedient to the soul and of a kind suited to the soul.¹

The chief reason why God formed Eve in that way is really twofold: first, because that way of forming her is above the power of nature; second, in order that man should, in both sexes, have as his direct goal and as the object of his entire love Him by whom he knows himself to be directly made.”²

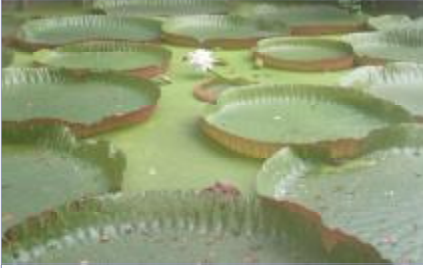
Your Editor grew up and served Mass in St Bonaventure's parish, WGC.

¹ *Breviloquium*, Pars 2, cap. 10. *Opera Omnia*, 5, 227f.

² *In II Sentent. dist. XVIII, in fine* (*Dubium circa litt. Mag.*)

Quoted by Ruffini, Cardinal Ernesto, *The Theory of Evolution Judged by Reason and Faith*, Joseph Wagner (1959), pp 133-134.

Three Remarkable Plant Genera



The giant leaves of the **water lily**, *Victoria amazonica*, can reach up to 3m in diameter. H.W.Bates in *The Naturalist on the River Amazons* reported: “We rowed for half a mile through a magnificent bed of Victoria water-lilies.” ¹ (This photo

was taken by the editor at Ventnor Botanic Gardens, Isle of Wight.)

These aquatic flowering plants were surrounded by **duckweed** (*Lemna*), members of the smallest angiosperm family, the Lemnaceae. The tiniest example is *Wolffia globosa*, the size of a grain of rice, which actually bears tiny flowers. (This photo was taken by the editor at Audley End, Essex.)



Among the most extraordinary organisms are carnivorous plants such as this **pitcher plant** (*Nepenthes*). ² They live in boggy places and have special structures to trap and digest insects from which they derive nitrates and other minerals. There are other examples in over 12 families, including the

sundews, Venus Fly Trap, bladderworts and butterworts. Since the process requires the production of digestive enzymes, evolutionists claim this demonstrates multiple examples of ‘convergent evolution.’ But this is just a label, and offers us neither evidence nor explanation.

1 John Murray (1876) p.250.

2 Picture: © Tang90246 @ stockphotosecrets.com