

## DESIGN IN NATURE

A compelling study of the evidence for design in nature from a scientific point of view is Dr Michael Denton's *Nature's Destiny*<sup>1</sup>. As we have remarked elsewhere on this website, whatever scientists may conclude within the limitations of their discipline, the philosophical position is clear: universally there are four causes of every effect, two of which are intrinsic to the effect and two extrinsic. These are the formal and material causes (intrinsic), and the efficient and final causes (extrinsic).<sup>2</sup>

The scientific evidence for 'design' exposed by Dr Denton encompasses two causes additional to the only cause that Darwinists and their sympathisers are prepared to allow, the material cause. These are the *final* cause, and the *formal* cause. The final cause causes by being desired. It is the end, or object, for which the effect is produced by any agent. Dr Denton has much to say about the manifestation in nature of the final cause which he classifies under the general heading of *teleology*. As significant as the final cause of any effect, however, is the formal cause. This, the cause which makes the effect be what it is, is variously called the essence, nature, or quiddity of a thing.<sup>3</sup> The following is an example of Dr Denton's approach.

"Although water is one of the most familiar of all substances, its remarkable nature never fails to impress. As a liquid, it accumulates on the earth's surface in bodies varying in size from the great oceans to small lakes to tiny puddles. In motion it may swirl violently down a great cataract, or flow serenely as a mature river meandering across a plain. On the surface of large bodies of water, the wind pushes up waves both great and small. Tiny droplets of the substance form the matrix of clouds. Slightly larger drops fall through the atmosphere from the clouds to the ground as rain. As a solid, it falls as snow blanketing the earth in white, it forms the great ice sheets of the polar regions and the valley glaciers in the mountains, and it forms the frosted pattern on a windowpane in winter. In the higher latitudes water forms the entire scenery of the earth, the ice caps at the fringes of the polar continents, the icebergs floating in the restless grey and ice-cold sea, the spray carried from wave tops by the wind and frozen instantly into fine pellets of ice in the subzero temperature and splattered like shrapnel onto the nearby ice shelves. Even the sounds associated with water are no less diverse: there is the rhythmic pounding of the surf, the deafening roar of a great waterfall, the babbling of a mountain brook, the gentle patter of summer rain, the clatter of hail against an iron roof, the grinding booms and sharp reports of an advancing glacier, and the thunder of an avalanche.

"These diverse manifestations of water are remarkable indeed. But as we shall see, they are not nearly as extraordinary or amazing as the various ways in which water is so ideally and uniquely adapted to serve its biological role as the medium or matrix for life on earth... Water forms the fluid matrix in which occur all the vital chemical and

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<sup>1</sup> Michael J Denton, *Nature's Destiny—How the Laws of Biology reveal Purpose in the Universe*, New York, 1998.

<sup>2</sup> Cf. *Decoding David Attenborough* at [http://www.superflumina.org/decoding\\_DA.html](http://www.superflumina.org/decoding_DA.html) and *Is God Material—Discussions with an ex Protestant* at [http://www.superflumina.org/god\\_is\\_not\\_material.html](http://www.superflumina.org/god_is_not_material.html)

<sup>3</sup> These are three ways of conceiving the effect. Essence signifies what *is*; nature signifies *how the thing operates* (as indicative of its essence); quiddity signifies *what is*.

physical activities upon which life on earth depends. Without water, life that exists on earth would be impossible..."<sup>4</sup>

Dr Denton goes on to consider one remarkable aspect of this substance. He quotes from William Whewell, master of Trinity College, Cambridge, who wrote in 1832:

"Water expands by heat and contracts by cold [but if this contraction were continued all the way to the freezing point]... the lower parts of water would have been first frozen and being once frozen hardly any heat applied at the surface could have melted them... This is so far the case that in a vessel containing ice at the bottom and water at the top, Rumford made the upper fluid boil without thawing the congealed cake below.

"Now a law of water with respect to heat operating in this manner would have been very inconvenient if it had prevailed in our lakes and seas... They would all have had a bed of ice, increasing with every occasion, till the whole was frozen. We would have no bodies of water, except such pools on the surfaces of these icy reservoirs as the summer sun could thaw to be again frozen to the bottom with the first frosty night.

"[This situation] is obviated by a modification of the law which takes place when the temperature approaches this limit. Water contracts by the increase of cold till we come near the freezing temperature; but then... expands till the point at which it becomes ice. Hence the water [at 4°C] will lie at the bottom with cooler water... above it... In approaching the freezing point the coldest water will rise to the surface where congealment will take place. [But this is only part of the story] Another peculiarity in the laws which regulate the action of cold on water is, that in the very act of freezing sudden and considerable expansion takes place... [Consequently ice floats.]<sup>5</sup>

He then quotes Whewell in support of the view that some of the thermal properties which endow water with its peculiar fitness for its purposes seem to be due to an apparently contrived violation of what would appear to be a natural law:

"This gradual progress of freezing and thawing, or evaporation and condensing, is produced, so far as we can discover, by a particular contrivance. Like the freezing of water from the top, or the floating of ice, the moderation of the rate of these changes seems to be the result of a *violation* of a law: that is, the simple rule regarding the effects of change of temperature which at first sight appears to be the law and which from its simplicity would seem to us the most obvious law for these as well as for other cases is modified at certain critical points *so as* to produce these advantageous effects."<sup>6</sup>

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Dr Denton's book is reviewed by Monsignor John F. McCarthy on the Roman Theological Forum website at the reference given below.<sup>7</sup>

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<sup>4</sup> *Nature's Destiny*, op. cit., p. 22

<sup>5</sup> W. Whewell, (1871) *Astronomy and General Physics Considered with Reference to Natural Theology*, 8<sup>th</sup> ed. (London: Bohn) quoted in *Nature's Destiny*, op. cit., p. 25.

<sup>6</sup> W. Whewell, op. cit., cited in *Nature's Destiny*, op. cit., pp. 25-6.

<sup>7</sup> <http://www.rtforum.org/lt/lt117.html>