## Life's irreducible structure—Part 2: naturalistic objections

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In Part I of this article, I showed that autopoiesis (self-making) provides a compelling case for the intelligent design of life because all aspects of life lie beyond the reach of naturalistic explanation. Here in Part II the argument from autopoiesis is tested against commonly cited naturalistic objections to intelligent design. It comes through soundly intact, even strengthened because the opponents of design agree on the facts. They disagree on the historical inferences, but only intelligent design meets the criterion of an acceptable historical inference according to the Law of Cause and Effect. Naturalistic explanations of biological origins in the face of universally contradictory evidence depend upon faulty reasoning such as: (i) exclusion by definition and ridicule, (ii) assuming what must be proved, (iii) misinterpreting the scientific evidence, (iv) assigning unrealistic properties to the environment, and (v) misusing the concept of chance. In Polanyi's terms, now is a very reasonable time to declare the impossibility of a naturalistic origin of life and accept that it was intelligently designed.

In Part I of this article, 1 I argued as follows:

- (i) Autopoiesis (self-making) is universal and therefore essential to life, so it is required at the *beginning* for life to exist and is thus not the *end* product of some long naturalistic process.
- (ii) Each level of the autopoietic hierarchy is separated from the one below it by a Polanyi impossibility, so it cannot be reduced to any sequence of naturalistic causes.
- (iii) There is an unbridgeable abyss between the autopoietic hierarchy and the dirty mass-action chemistry of the natural environment.

In this part, I test the integrity of this argument in the face of naturalistic objections to intelligent design. I then go on to assess evolutionary arguments for a naturalistic origin of life in the face of universally contradictory evidence.

#### Objective knowledge and historical inference

Science gets results by observation and experiment upon repeatable phenomena. Its most valued products are general laws that are observed repeatedly which we can confidently call 'objective knowledge'. These general laws may be incomplete or even false, but they are *objective* in that they are open to testing by others. New information may cause them to be modified or discarded. Meanwhile, this objective knowledge is usually useful in curing disease, improving technology and food production, etc.

But the subject of origins is quite different. It deals with unique sequences of unobservable and unrepeatable past events. No one can develop general laws about unique, unobservable and unrepeatable past events. Our general laws can tell us what *might* have happened in the past but they cannot tell us what *did* happen. Nor does anyone have a time machine to go back and observe what actually happened.

The best that science can do is extrapolate backwards in time from present day objective knowledge, using the principle of uniformity. This principle says that the laws of nature remain the same through all of time and space. Note that this principle is *not* objective knowledge—we cannot visit all of time and space to verify it, so it is just a convenient but necessary *philosophical assumption*. Most people do not realize that this principle underlies all of evolutionary theory, nor do they realize that it is potentially an anti-God assumption because it assumes that God has never intervened in history.

Historical inference is thus quite different to objective knowledge. We cannot test it by observation or experiment, so it is only as good as the assumptions it is built upon. If the assumptions are wrong, the 'knowledge' will be faulty.

In the following discussion, the objective knowledge of life is available to all sides. Surprisingly, there is universal agreement on the fact that at present there is no naturalistic explanation for the origin of life. The controversy lies entirely in the historical inferences about what *might* have happened in the past. The only way we can evaluate these historical inferences is to examine the *assumptions* used to make those historical inferences and test the *logical connections* for internal consistency.

#### **Naturalistic objections to Intelligent Design**

#### The fact of autopoiesis

There has been a general reluctance among biologists to acknowledge and develop the idea of autopoiesis.<sup>2</sup> But it is a fact of biology beyond dispute, so the reasons must be ideological rather than scientific. Organisms do repair themselves. For example, there are at least 148 known genes dedicated to DNA repair, using at least 14 known different methods, carrying out up to a million repair events per cell per day.<sup>3</sup> Organisms do maintain themselves. For example, every production pathway for every molecular component in a cell has a corresponding degradation pathway so that redundant, used and/or damaged molecules can be broken down and the parts recycled. There are even programmed cell death mechanisms to remove unwanted cells from a developmental pathway (apoptosis) and to cleanly dispose of malfunctioning or injured cells

(necrosis). Damage to these degradation pathways often leads to disease and death because cells and tissues become clogged with molecular rubbish. Organisms do reproduce themselves, and in an astonishing variety of ways, and they do produce *variable* offspring as everyone since Darwin has acknowledged. There are no sustainable objections to the fact of autopoiesis.

#### The universality of autopoiesis

The universality of autopoiesis is also a fact of biology beyond dispute. In Kirschner and Gerhart's groundbreaking book *The Plausibility of Life: Resolving Darwin's Dilemma*, in which they announce the first ever theory—called *facilitated variation*—of how life works at the molecular level, they identify two basic components:

- conserved core processes of cellular architecture, metabolic function and body plan organization; and
- modular regulatory mechanisms that are built in special ways that allow them to be easily rearranged into new combinations to generate new and variable phenotypes.

Concerning the conserved core processes, they say,

'Core processes may have emerged together as a suite, for we know of no organism today that lacks any part of the suite ... The most obscure origination of a core process is the creation of the first prokaryotic cell. The novelty and complexity of the cell is so far beyond anything inanimate in the world of today that we are left baffled' (pp. 253–256).

The central message of Kirschner and Gerhart's theory is that not genes but the cell, with its highly conserved architecture, machinery and regulatory circuitry, is the centrepiece of life and heredity. When these ideas are combined—that the cell as a whole is the functional entity, that cell structure and function is highly conserved, that its origination as a whole entity has no naturalistic explanation, and that the 'suite of core processes' is universal—this clearly supports the universality of autopoiesis.

### The separation of autopoietic levels by Polanyi impossibilities

The existence of Polyani impossibilities is also beyond dispute. This is demonstrated in Part 1 in figures 1 and 2, where man-made artefacts clearly have structure that can not be explained by the properties of the materials they are made of. The parallel with biology is also clear—life is made of carbon, hydrogen, oxygen, nitrogen, phosphorus etc., but life cannot be explained simply by the properties of these materials.

Nobel Prize winning biochemist Christian de Duve, in his latest book on the origin of life, itemizes numerous obstacles to a naturalistic origin, which he calls *singularities*—events that only happened once and have never been repeated. He then offers seven different possible explanations, six of

which are naturalistic and the seventh is intelligent design. Of the latter he says 'it can come into account only after all natural explanations have been ruled out, and, obviously, they never can be.' This is an appeal to ignorance, not knowledge. What we *do* know, even by de Duve's own admission, rules out naturalistic explanations and leaves only intelligent design.

The ground level of the autopoietic hierarchy is perfectly pure components, such as only left-handed amino acids (in contrast to the dirty chemistry of the natural environment). De Duve has no naturalistic explanation for this transition because the mass-action laws of environmental chemistry drive it towards mixtures rather than purity. The next level is specific structure of individual molecules. De Duve has no naturalistic explanation for this transition because the massaction laws of environmental chemistry drive it towards the statistically far, far more likely non-functional structures. The all-pervasive problem of hydrolysis is not even mentioned in his book. The next level in the hierarchy is integration of specially structured molecules into functional machines. De Duve has no naturalistic explanation for this transition because the mass-action laws of environmental chemistry have no functional goal-orientation. The next level is information-driven regulation of the cellular machinery. De Duve has no naturalistic explanation for this transition because environmental chemistry carries no coded information. The next level is the inversely causal meta-information that keeps the functional information intact and passes it onto its offspring for the purpose of survival in a changing world. De Duve has no naturalistic explanation for this transition because without any coded information, environmental chemistry has no mechanism for handling meta-information.

De Duve can explain none of the structure or function of life using the properties of its constituent materials because in every case the laws of environmental chemistry work *against*, not towards, life. Each level of the autopoietic hierarchy is thus separated by Polanyi impossibilities. The most reasonable historical inference to make from this conclusion is that it could not have arisen by any of de Duve's six naturalistic processes, so that leaves only the seventh, intelligent design.

#### The unbridgeable abyss

The third crucial argument is that there is an unbridgeable abyss below the autopoietic hierarchy, between it and the dirty, mass-action chemistry of the natural environment. Does this abyss actually exist?

The existence of the abyss is clearly established by the title of Professor de Duve's book just mentioned, *Singularities*. Even though he puts all his great intelligence and skill into seeking ways to circumvent these singular obstacles, he (and many others) cannot, and that is why he chose that title. Another recent book by Hubert Yockey, the result of half a century of research on the subject,

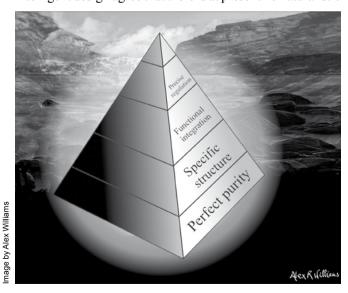
approaches the origin of life from the point of view of information theory and comes to the conclusion that the question of origin is undecidable.<sup>6</sup> Together, these two long-time researchers in their respective fields give us a good definition of the abyss:

- The environment can provide organic 'building blocks' such as amino acids, thioesters, and pyrophosphates, but only in a 'dirty gemisch (heterogeneous collection of molecules)' of other useless and often toxic materials (de Duve).
- Life runs on 100% pure reagents. De Duve has no explanation.
- Life processes are information-driven, a feature unknown in the natural world (Yockey).
- The digital information of the genetic code has been faithfully transmitted across the whole time span of life on Earth and leads back to no known naturalistic originating source (Yockey).
- Both the laws of physics and Gödel's incompleteness theorem allow for undecidable propositions, so we should not shy away from concluding that the origin of life is an undecidable question (Yockey).

This leads to a simple definition of the abyss: 'it is a naturalistically undecidable question because there is no evidence of a naturalistic cause.' Yockey's claim of undecidability is not compelling, however, because neither physics nor Gödel's theorem identify which questions are undecidable. Yockey has simply grabbed onto this excuse to conveniently avoid the uncomfortable conclusion that life was intelligently designed.

#### **Naturalistic fudges and fumbles**

Since even the specialist scientist opponents of intelligent design agree that there is at present no naturalistic



**Figure 1.** The irreducible structure of the autopoietic hierarchy is separated from the dirty chemistry of the natural environment by an unbridgeable abyss.

explanation for the origin of life, why is the world at large so convinced otherwise? Here are five common reasons:

- 1. exclusion by definition and ridicule,
- 2. assuming what needs to be proved,
- 3. misinterpreting the scientific evidence (nintentionally),
- 4. assigning unrealistic properties to the environment, and
- 5. misusing the concept of chance.

#### Exclusion by definition and ridicule

Dawkins and Coyne write, '[Intelligent design] is not a scientific argument at all, but a religious one. It might be worth discussing in a class on the history of ideas, in a philosophy class on popular logical fallacies, or in a comparative religion class on origin myths from around the world. But it no more belongs in a biology class than alchemy belongs in a chemistry class, phlogiston in a physics class or the stork theory in a sex education class.'<sup>7</sup>

By defining intelligent design out of the field of science, they appear not to have to answer its scientific challenges. But the issue here is *history*, not science. Unique events of history—either creation or evolution—are not science. But we can certainly *use* science to assess historical inferences of either kind, and when we do so we come up with very strong support for intelligent design as an event in history, and very strong evidence against a naturalistic origin.

Exclusion of intelligent design by definition fails on the grounds that the issue is fundamentally about history, not science. Exclusion by ridicule would only be valid if the arguments were ridiculous, but they clearly are not, so the ploy is nothing more than bluff—the resort of those who have nothing better to offer.

#### Assuming what must be proved

In *Singularities*, Professor de Duve personally rejects both chance and intelligent design as explanations for life, and concludes that life evolved naturalistically, via 'strictly chemical phenomena that ... were bound to occur under the physical-chemical conditions that prevailed ... leaving no room for chance' (p. 238). How did this happen?

The first trick that he uses is equivocation—two different meanings in the same argument for the one word *protometabolism*. On p. 15 he says,

'These early chemical processes [cosmically produced and Miller-type amino acids] are generally referred to as prebiotic, or abiotic, chemistry. They will be designated *protometabolism* in this book [emphasis in original].'

Then, on p. 150 he presents a summary table of his model, and there we find that all the essential properties of metabolism (life chemistry) have been moved down into *protometabolism*, and before that he still has 'abiotic chemistry' continuing to churn out the building blocks.

The second trick he uses is assuming what must be proved. His first singularity is the 100% purity of proteins

(homochirality). 'How this could have happened is not known. ... but whatever the starting situation, one would expect homochirality to emerge by selection' (p. 12). But selection can only occur if you already have organisms. He assumes what he is trying to prove, and even admits to doing so:

'How RNA could possibly have emerged from the clutter [dirty gemisch] without a "guiding hand" would baffle any chemist; it seems explainable only by *selection*, a process that presupposes *replication* [emphasis in original] (p. 78).

In his famous *Blind Watchmaker* argument, Richard Dawkins does the same thing, saying 'The theory of the blind watchmaker is extremely powerful, given that we are allowed to assume replication and hence cumulative selection.' Replication with cumulative selection only occurs in living organisms so he assumes the existence of what he is trying to prove.

#### Misinterpretation of biological evidence

Because of a prior commitment to naturalism, many scientists and media organizations reject any thought of design and only discuss evidence of apparent naturalistic origin. Here are five common examples, all of which are faulty.

#### (1) Natural variation

Neo-Darwinists assume that genes produce organisms, mutations in genes produce changes in organisms and genes have a continual influence on organisms. Since only about 3% of our genomes are protein-coding genes, they assume the rest is mostly 'junk'—left-over mutation-disabled genes from past evolutionary stages. In his book *The Ancestors Tale: A Pilgrimage to the Dawn of Evolution*, Richard Dawkins says,

'We don't need fossils to peer back into history. Because DNA changes very slowly through the generations, history is woven into the fabric of modern animals and plants, and inscribed in the coded characters.' <sup>10</sup>

In his book *Climbing Mt Improbable*<sup>11</sup> Dawkins overcame the most daunting design challenges by 'going around the back way'—natural selection captures every tiny useful mutation and accumulates them until self-aware human beings emerge at the top. He continues to rely on this mechanism in his latest book, *The God Delusion*.<sup>12</sup> In the section 'refuting' intelligent design he argues that we can easily imagine situations where 'half an eye [i.e. 50%] is better than 49%' and so natural selection will select the superior version and work towards ever-more-advanced and 'apparently designed' eyes.

Natural variation thus appears to point back to a naturalistic origin of life, but it actually assumes everything that needs to be proved—the existence of fully functional organisms with the ability to reproduce variable offspring.

The added limitless range and plasticity of these natural variations is contradicted by all our experience with plant and animal breeding, which shows that there is a limit to natural variation—it is not infinitely plastic.

Recent discoveries in molecular biology have completely overturned this neo-Darwinian picture of life. The 'junk DNA' concept has been discredited by the ENCODE project. They examined the RNA sequences transcribed from just 1% of the human genome and discovered that virtually all the DNA is transcribed from *both* strands of the double helix (not just the gene-coding regions of the 'positive' strand, as expected). And there are multiple layers of interleaved transcripts, not the beads-on-a-string model that neo-Darwinists used. So genes are no longer the centrepiece of life and heredity but vast numbers of RNAs that are derived from multiple overlapping transcriptions of the whole genome. Almost all DNA is being used right now so Dawkins' record of history does not exist!

According to Kirschner and Gerhart's facilitated variation theory mentioned earlier, genes do not have a continual influence on organisms, they only work when switched ON. Natural variation is mostly the result of rearrangements of modular regulatory switching circuits, plus some contribution from mutations that disrupt these switching circuits. The conserved core processes (all the architecture and the machinery in the cell) and the modular regulatory circuits (which they compare to \*Lego blocks which can be easily pulled apart and rearranged) have to be in place before natural variation can occur.

An example of facilitated variation is found in the phylogenetic history of a group of sibling species in the fruit fly genus *Drosophila*, where a particular wing pigment pattern has been gained twice and lost twice, but for different reasons. All pigment patterns were produced by the one pleiotropic<sup>14</sup> gene called *yellow*. The two loss events occurred via mutations that inactivated the switch that turned *yellow* ON. But the two independent gains of the pattern resulted from the gene being switched ON by other switches.<sup>15</sup> These gene switches have 'signature sequences' that can be changed about in numerous different permutations and combinations to produce different outcomes.<sup>16</sup>

This means that natural variation is not merely the passive result of mutations, as neo-Darwinists assume, but rather cells actively *use* random changes to produce useful new combinations of existing circuitry. Natural variation is thus built-in. Kirschner and Gerhart argue that without this built-in capacity for variation, a purely mechanical kind of life would break down at the first encounter with a mechanical malfunction. This is powerful evidence of design.

#### (2) Random outcomes

Gregor Mendel showed experimentally that—for certain carefully chosen characters—inheritance was carried by paired factors (genes on homologous chromosomes) that dissociate during gamete formation (meiosis) and then recombine randomly (according to the laws of chance)

during fertilization. It has ever since been widely assumed among biologists that random natural variation points back to the possibility of a random natural origin. Nothing could be further from the truth.

A random outcome is surprisingly difficult to obtain, and it is always constrained and not open-ended as evolutionists require for 'goo-to-you-via-the-zoo' evolution. The tossing of an unbiased coin can produce a random result but only between two possibilities—heads or tails. The tossing of an unbiased die can produce a random result, but only among its six possible faces. Even a computer cannot produce a truly random result because it does calculations and calculations always produce predictable results.<sup>17</sup>

Truly random outcomes are difficult to obtain because they crucially depend upon the stability of the system that produces them. If Mendel's pea plants had not reliably produced seeds from independently segregating cell divisions every generation, and had not produced a sufficiently large amount of pollen to ensure independent fertilization events, he could never have discovered the random outcomes that showed him the laws of hybridization. Likewise, coin-tossing produces random outcomes only while the coin remains solidly round and flat, and the die only works if it remains rigid and unbroken. Any system that is capable of continually producing a chance outcome must have a stable core mechanism. Indeed, any system that varies continually in any manner, random or otherwise, without a core of stability will quickly encounter an error catastrophe—changes mount upon changes until the core functionality collapses.

The random variation we observe in biology provides a powerful case for intelligent design. It requires a wellengineered underlying mechanism of stability to protect itself from error catastrophe, and it is not infinitely plastic but constrained to the range of possible outcomes provided by the kinds of gene regulation combinations accessible to it.

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**Figure 2.** Truly random outcomes are difficult to obtain. They require precisely designed structures (such as coins, dice, or a roulette wheel) that can consistently maintain their integrity and performance. They point to an intelligently designed source.

#### (3) Error tolerance

Living things tolerate errors remarkably well. Evolutionists use this property to argue that since life is error tolerant, then it could have arisen in an error tolerant (sloppy, haphazard, inefficient, mutation-ridden) stepwise, Darwinian manner. This fallaciously assumes that error tolerance is an intermediate step between non-functionality and functionality, but it is not. Error-tolerant systems are very much *more* complex than error-intolerant systems.

The computer industry provides an excellent illustration of this principle. Word-processing software of thirty years ago produced very similar results as today, but with very much shorter software codes. Today's error-tolerant software that detects, interprets and corrects errors as you type, requires far more code, far greater programming skills, and far more computer memory and processing power, than the earlier models. Error tolerance is therefore *not* a sign of error-prone evolution, but a sign of advanced engineering design.

As I showed in Part I of this article, the *reason* that organisms tolerate errors is because they have the most wonderful repair and maintenance mechanisms built-in by design!

#### (4) Redundancy

A common objection to Michael Behe's claim that the bacterial flagellum is irreducibly complex is to point to other bacterial flagella that require fewer parts than the one Behe chose. This argument is superficially persuasive, but false, because it assumes an important property of life that cannot be assumed—redundancy. Living organisms usually carry with them more than they really need to survive. The obvious reason for this is that God intended them to have the capacity to adapt to changing conditions, in particular to the stress of living under the curse of Adam's sin after

the Fall. Evolutionists have never come near to explaining how even the simplest living organism could arise naturalistically, so the difficulty is *multiplied many-fold* if the *first* organism has to contain *more* than it needs at that time to survive. If it did not, it could not have adapted to environmental change and would have gone extinct before life got to the second generation.

To illustrate how much redundancy can be present, consider the bacterium Salmonella enterica. Of 700 enzymes identified in infected mice hosts, over 400 of those enzymes can be knocked out without reducing Salmonella virulence, reflecting 'extensive metabolic redundancies and access to surprisingly diverse

mage by Alex Williams

host nutrients.'<sup>18</sup> The mouse genome provides another example. In gene knockout experiments, only about 15% of single-gene knockouts were developmentally lethal.<sup>19</sup> That is, about 85% of the mouse genes can be knocked out (one or a few at a time) and still produce a viable adult. If naturalistic experiments are unlikely to produce an organism with sufficient functionality to survive and reproduce, then they are even *less* likely to produce one with *more* functionality than is needed. Redundancy is powerful evidence of design.

#### (5) Self-organizing chemicals

Because many steps in biochemistry have a selforganizing component, origin-of-life researchers are always looking for self-organizing systems in nature that might perhaps explain the origin of life. However, self-organizing components in life already have ultra-pure composition and ultra-specific structure. For example, tubulin, the protein that forms much of the internal scaffolding (cytoskeleton) of cells, and kinesins, the motor proteins that travel along tubulin pathways, when put together in a test tube, will spontaneously form networks similar to those inside cells, such as the mitotic spindle apparatus that assists in cell division.<sup>20</sup> However, it is the pure composition and remarkable structure of these amazing proteins that causes them to behave in this way, not any innate tendency of environmental chemistry towards self-organization. They behave in this way because their purity and specific design (whatever its origin) causes them to behave in this way!

Similarly, RNA shows a wide range of interesting selforganizing activity in pure solutions. However, this very same activity creates great problems for any origin-of-life experiment. A long strand of RNA is like a long strand of sticky tape—it sticks to anything it touches, including itself, and quickly 'self-organizes' into a jumbled mess. Moreover, it is highly unstable outside of its normal cellular environment and breaks down in a matter of minutes.

#### (6) Assigning unrealistic properties to the environment

According to Christian de Duve, the two components that produced life from non-life were chemistry and environment. At no point does he make any systematic attempt to describe what these special conditions in the environment might have been, so it is an appeal to ignorance once again, not an argument based on objective knowledge.

The most he says is things like 'it is not known.' However, on p. 167 he speculates on what environmental conditions might have caused nascent proto-life to overcome the final singularity and become the first life form. What were these special conditions? 'Starvation, acidification, and excessive heat.' These conditions are not at all special—they are repeatable in every laboratory—and none of them produce life!

#### Misuse of the concept of chance

Since no one has any naturalistic explanation for life, cosmologists have suggested that perhaps an infinite number of other universes exist and we are just the lucky one where life occurred by chance. But chance cannot make impossible

events possible. Chance is nothing more than the mathematical calculation of how often *real* events might occur if they are not certain to occur.

For example, the laws of physics do not prevent a cow from jumping over a fence. Cows do jump over fences, but only rarely, so we could gather information and use statistical theory to predict how likely that event might be, given various circumstances. However, the laws of physics do prevent a cow from jumping over the moon (it would need a rocket engine to do that) so the idea of a cow jumping over the moon by chance is absurdly anti-scientific. In similar manner, Professor de Duve has met impossibility after impossibility in his search for the origin of life because the laws of chemistry work *against*,



Photo by William Wallace Denslow, from <Wikipedia.org

The laws of physics do not prevent a cow from jumping over this Moon, but they do prevent a cow from jumping high enough to escape the Earth's gravity and jump over the real Moon. In exactly the same way, the laws of chemistry prevent environmental chemicals from organizing themselves into living organisms. Neither events can occur by chance and it is profoundly anti-scientific to suggest that they could.

not towards, his goal. To propose that chemicals could come to life by chance is as absurdly anti-scientific as the idea that a cow could jump over the moon by chance. Both are Polanyi impossibilities.

#### **Identity of the Designer**

Richard Dawkins argues that intelligent design is a nonsolution to the origin of life issue because it begs the question of the identity of the designer. 'If complex organisms demand an explanation, so does a complex designer. And it's no solution to raise the plea that the Intelligent Designer is simply immune to the normal demands of scientific explanation. To do so would be to shoot yourself in the foot. You cannot have it both ways.'

This is a red herring. There is a pencil on my desk that I can deduce was intelligently designed, and Richard Dawkins would agree with me. But neither of us need to know the identity of the designer in order to come to that conclusion. All we need is the evidence of objective knowledge and the logic of historical inference. The identity of the designer is a separate issue to the evidence of design.

Actually, the Law of Cause and Effect that Dawkins appeals to does, when used correctly, give us a strong argument for design and at least some clue to the designer's identity. An effect can only be produced by a cause that is sufficient, or competent, to produce that effect. For example, an ant cannot push a bulldozer, but a bulldozer can push an ant. The movement of an ant therefore cannot be accepted as a sufficient cause to explain the movement of a bulldozer, but the movement of a bulldozer could be accepted as a sufficient cause to explain the movement of an ant. Correspondingly, the astonishing sophistication of autopoietic life could only be explained by a comparably astonishingly sophisticated cause. The only causes available are chance, chemistry-and-the-environment, and intelligent design. Of these, only intelligent design meets this criterion.

#### **Summary**

Life's irreducible structure and the concept of autopoiesis are not in any way contradicted by the common arguments against intelligent design. Yockey's claim that the origin of life is an undecidable question does not stand up to scrutiny—it is an empty play on words designed to hide the uncomfortable conclusion of design.

The idea that life arose naturalistically from non-living chemicals is not objective knowledge, nor is it based upon any inference, deduction or extrapolation from objective knowledge. Quite the reverse—it is an ideological statement formulated in opposition to universally contradictory objective knowledge. Only intelligent design meets the criterion of an acceptable explanation according to the Law of Cause and Effect.

Naturalistic explanations of biological origins all depend upon faulty reasoning such as: (i) exclusion by definition and ridicule, (ii) assuming what must be proved, (iii) misinterpreting the scientific evidence, (iv) assigning unrealistic properties to the environment, and (v) misusing the concept of chance. In Polanyi's terms, now is a very reasonable time to declare the impossibility of a naturalistic origin of life and accept that it was intelligently designed.

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