

The Designer Universe

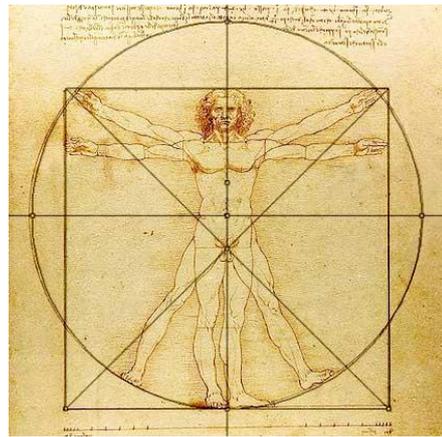
Stephen J Brewer, January 2016*

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The scientifically accepted version of emergent evolution provides very strong evidence that we are part of a Grand Design. This design has been in the process of unfolding since the universe was created some 14 billion years ago.

Natural Design

Historically, the existence of a ‘divine designer’ or God was evidenced by the fact that nature and the heavens themselves show elements of design on a scale and complexity way beyond the ability of any mortal. Therefore, all nature and its creatures must be designed and manufactured by this God as part of some mysterious divine plan. It was the function of religions to uncover this plan and for humans to help in its execution or face divine punishment. This was the case until Charles Darwin undermined the whole edifice by showing that animals actually evolved by the process of natural selection. An animal’s form is not manufactured but the result of a slow evolutionary process where chance mutations occasionally result in the discovery of new designs enhancing the survival and reproduction of offspring. Evidence for this process comes from the ability to use selective animal breeding to introduce new traits, as well as the fossil record showing the slow accumulation of increasingly complex features over many millions and indeed billions of years. This process is now universally accepted by biologists to describe how animals are so exquisitely designed to meet the challenges of surviving and reproducing. It seems that science has successfully destroyed the powerful design ‘proof of God’ by replacing it with an entirely natural process.



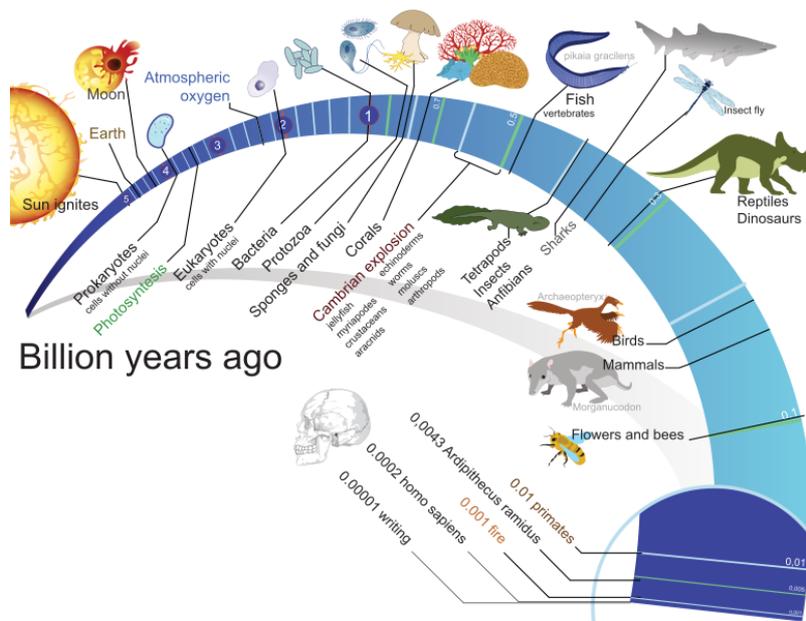
Attempts have been made to restore a divine being as the intelligent designer and manufacturer of animals by using arguments for ‘irreducible complexity’. Some arguments for [intelligent design](#) point to ‘inexplicable’ jumps in complexity seen in the fossil record to argue that these could not be produced by the slow accumulation of mutations. So for example, it is argued an eye could not evolve by this process because it is much too complex and no one has found any intermediary structures. The problem with these arguments is that these gaps are continually being filled in. For example, [light sensitive pits](#) have been found in certain animals allowing them to discern changes in light intensity that could be caused by predators or prey. The problem with the ‘God of Gaps’ argument for divine intervention is that it disappears as increasing scientific knowledge removes the mysteries of the evolution of life.

Emergent Designs

However, a second and more subtle argument used to support the naturalistic interpretation of evolution has not been closely examined. That is the need for these designs to be *discovered*. If they were invented it implies these natural designs had an inventor which re-introduces the need for divine intervention. Therefore, the new designs must be discovered by chance. This process of discovery is not the same as Galileo’s discovery of the moons of Jupiter. After all these physical objects exist whether or not he pointed his telescope at them. Instead, these designs must somehow

await discovery and to come into being when they are used to make a physical object: that is when they are 'actualized'. For example, the unique design of each beak used by [Darwin's Finches](#) on the isolated Galapagos Islands pre-existed as potentials within the bird's physiology. It was their successful actualization after their discovery by a chance mutations that generated these different bird species.

In addition, the fossil record show that these designs are actualized in an ordered sequence leading to animals with ever increasing complexity. This is the concept of emergent evolution linking ourselves in a continuous chain of creation right back to the emergence of the very simplest single celled life forms.



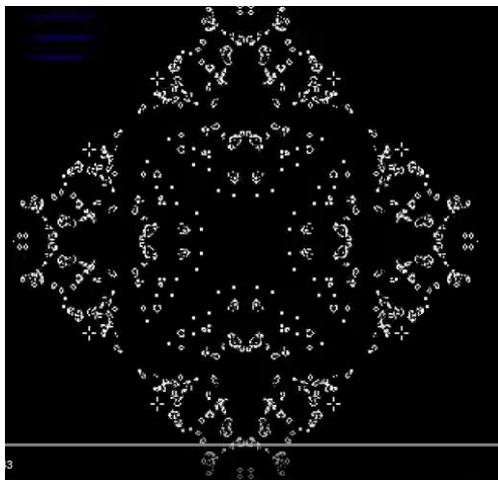
This concept of increasing complexity by the process of emergent evolution now extends back to the very creation of the universe in a single event called the 'Big Bang'. As the universe expanded and cooled, sub-atomic particles were first formed. Further cooling allowed these sub-atomic particles to combine to form the immensely stable proton. As a consequence, the elements can be formed which in turn opens up the way to produce the carbon based chemicals which are

themselves the basis of life. Only when this potential was actualized could the long process of natural selection occur resulting in the emergence fully conscious life forms. Therefore, it appears that as each material form is successfully actualized, another sea of discoverable designs opened out before it. Some of course lead to dead ends, but others open whole new realms of possibilities that were previously hidden from view.

As impressive as it is that such a vast array of physical bodies could emerge from a single creative act, there is yet another and arguably more impressive level of emergent design. This is the mental processing by which we become conscious of the world. This requires highly complex and integrated information processing systems to produce a string of impressions, experiences and thoughts. Take, for example, [colour vision](#). To see a red rose, we require not only a whole array of physical equipment, (an eye, retina with colour receptors, optic nerve) but also the capacity to carry out highly complex mental processing in the brain. This mental and physical 'equipment' is needed to take in and process light of a particular wavelength, to generate the red-experience, then project that colour-experience back onto its source. The result is we see a red-rose instead of a pattern of light energy. In a similar way, hearing, smell, taste and touch need specialized physical equipment combined with advanced mental processing to turn a bland world of simple sensations into one filled with objects distinguished by particular combinations of rich experiences. This virtual enhancing of the world is also important for an animal's survival and reproduction since it allows the subject of these experiences to more easily detect both food and predators. Expand these sensations to include all our emotions and thoughts and you can see what a vast array of subjective experiences must also co-emerge during the long processes of physical evolution. By the same argument used for physical objects, these mental objects must themselves be chance discoveries made during the long period of evolution.

Sources of Design

If science is to work, there is no room for “and then something magic happens” for everything must have a cause. Therefore, in addition to the source of the energy released in the Big Bang, we also need a source for these designs or forms; that is a place for them to be held as they await their discovery. These design solutions must be somewhere and the only feasible place is that they pre-exist in a transcendent realm outside of space and time. This may sound fanciful, but such a concept is well established amongst mathematicians. It is the theory called [Mathematical Platonism](#). You see, mathematicians have long been presented with the problem of explaining where the ‘mathematical objects’ they work come from. They can’t be invented by the mathematicians because they would then not be logically derived from their starting axioms. Instead they must be discovered in a ‘space’ that is transcendent of our physical reality. Even so, these abstract objects can describe in great detail what happens in our physical reality. This is particularly true of The Standard Model, Quantum Mechanics and General Relativity, all of which are abstract mathematical objects and yet able to describe physical reality in immense detail. Why this ‘unreasonable effectiveness of mathematics’ occurs is an area of considerable debate, but these abstract mathematical objects must somehow be involved in the emergence of the physical universe from the original chaos of the Big Bang.



Cellular Automata and the emergence of complex patterns from simple rules (click image for video)

Although it is at an early stage, we are also beginning to see that the human mind uses a form of data processing to derive its experiences of the world from inputs of raw data. The processing seems to occur by networks of neurons stimulated to fire in a systematic way. These then produce complex waves of electrical energy that are our specific experiences and emotions, or at least correlated with them. The power of [neural networks](#) modelled on the natural processors is being harnessed in artificial intelligences. These systems can be trained to recognize shapes and even human faces. I predict that as consciousness science advances, we will find that all sensations and emotions emerge as complex patterns of electrical energy produced by applying computational rules. This means those same computational rules that underlie the formation of mathematical objects are used to construct the very

highest of our emotional states.

The designs enfolded within such mathematical objects and algorithms have no reality until they are actualized. Up until this moment they are not real, they have no presence in space or time. Thus the proton, the experience of the colour red and the emotion of love were eternally present even at the moment of creation, just not actualized. What needs to be emphasized is that these eternal timeless objectsⁱ, are just as essential to the process of creation as the Big Bang since without them there would be no physical reality nor life forms able to experience it.

Compelling Evidence for a Designer?

So the conclusion of both empirical science and rational thought points to a process of emergent evolution acting by the chance discovery of useful designs. These designs are revealed by the ordered unfolding of the potentials existing in an abstract world of mathematical algorithms. The emergent evolution of the entire universe from the big bang and up to and including the incredible complexity of human beings, has depended on the discovery, actualization and successful integration of these revealed designs into its collection of evolving creatures. *Is this not just the most extraordinary discover ever made?*

At the end of Karl Sagan’s science fiction novel ‘Contact’ he describes how a scientist who programs a super computer to calculate the value of pi to an inconceivably high number of decimal places, also makes an extraordinary discovery:-

“Hiding in the alternating patterns of digits, deep inside the transcendental number, was a perfect circle, its form traced out by unities in a field of noughts. The universe was made on purpose, the circle said. In whatever galaxy you happen to find yourself, you take the circumference of a circle, divide it by its diameter, measure closely enough, and uncover a miracle--another circle, drawn kilometres downstream of the decimal point. There would be richer messages farther in. It doesn't matter what you look like, or what you're made of, or where you come from. As long as you live in this universe, and have a modest talent for mathematics, sooner or later you'll find it. It's already here. It's inside everything. You don't have to leave your planet to find it. In the fabric of space and in the nature of matter, as in a great work of art, there is, written small, the artist's signature. Standing over humans, gods, and demons, subsuming Caretakers and Tunnel builders, there is an intelligence that antedates the universe.”



One of the many beautiful and intricate structures revealed by the unfolding of the [Mandelbrot set](#).

So has science, in its description of this incredible complex, systematically organized array of potential designs, provided an even more compelling argument for a designer than that in Karl Sagan's story? I believe that the answer is yes! Through science and mathematics, we have unveiled the hidden message that the creative process must be the unfolding of a pre-existing and immensely subtle plan. This plan allows its creatures to freely explore and discover the design solutions present in a vast, ordered, eternally present realm of forms. With these solutions, life and consciousness have emerged from the formless void.

Conclusion

The science of emergent evolution indicates that the universe is in the process of unfolding according to the guidelines provided by a pre-existing plan. This conclusion points to a vast intelligence able to subtly guide the development of an entire universe. It suggests we are, indeed, part of an as yet barely conceivable 'Grand Design'.

See also "[The God Postulate](#)"

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ⁱ These designs are based on A.N. Whitehead's 'Eternal Objects' or 'Pure Potentials for Actuality' described in of his metaphysics 'Process and Reality'. They are necessary for the observed physical and conceptual order found in the universe. Along with Creativity, Eternal Objects constitute the 'Primordial Nature of God'. See www.originsofself.com/whitehead