



Intelligent Design (ID) is the proposal that “certain features of the universe and of living things are best explained by an intelligent cause, and not an undirected process such as natural selection.”¹ It is a proposal that is linked to an intellectual, social, and political movement centered in and driven by a non-profit think tank called the Discovery Institute, which is based in Seattle, Washington in the U.S.A.

Recall that evolutionary theory proposes that organisms and living systems evolved in a step-wise and gradual manner. Pointing to examples like bacterial flagella—the whip-like propeller structure used by bacterial cells to impel themselves through their microscopic environment—ID theorists propose that evolution

cannot explain the gradual appearance of this and other molecular machines like it, because of, what they call, their irreducible complexity.

ID proponent and biochemist Michael Behe explains, “By irreducibly complex, I mean a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning.”²

An example of an irreducibly complex (IC) system according to Behe is a mousetrap. A simple mousetrap has no ability to trap a mouse until several separate parts—the base, the hammer, the spring, and the catch—are all assembled. This is what makes it irreducibly complex. According to ID proponents, a mousetrap could not have evolved gradually: Intermediate structures in the evolution of a mousetrap, say a base with a hammer but without a spring or a catch, would be non-functional as a mousetrap and therefore could not be subject to natural selection. Thus, a mousetrap must come to be at once in order for it to be functional.

This ID proposal for the non-evolvability of IC systems has been countered by evolutionary biologists in two ways. First, they have challenged the soundness of the argument for irreducible complexity. They have argued that sub-parts of an irreducibly complex system do not need to have the same function as the final system of which they are a part, in order for them to have evolved. They need only serve some function—any function—in the cell.

Take the bacterial flagellum. The molecular structure of the bacterial flagellum suggests that

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Rev. Nicanor Austriaco, O.P.

it evolved from components of a bacterial pump. Yes, a sub-part of a flagellum could not function as a flagellum as ID proponents point out, but evolutionary biologists counter that these sub-parts could have another function: they could have been (and probably were) pumps. As such, these sub-parts could still be subject to natural selection. They could have evolved.

Significantly, this evolutionary mechanism would explain why the bacterial flagellum is a hollow tube rather than a solid whip-like structure, even though a whip would have made a better propeller than a straw. The bacterial flagellum is hollow because it evolved from a pump that is hollow.

Second, evolutionary biologists point out that the absence of known evolutionary pathways describing the appearance for the molecular machines described by ID proponents does not mean that they did not evolve. It is simply a sign of the incompleteness of science. In time, scientific research should uncover these pathways because, in principle, IC systems like the flagellum

are still subject to natural selection and evolution because their sub-parts could have original functions unlinked to their current use.

To add to this critique, I have also argued that ID proponents have neglected those apparent IC systems with components that come from two independent organisms.³ Take the molecular machine used by the HIV virus to infect a human cell. This molecular machine, this infectivity structure, is made up of several components called gp120, gp41, CD4, and CCR5, that come together to form the lock-and-key structure needed for infection.

Note that this infectivity structure fits the definition of irreducibly complexity because all the molecular parts are needed together for viral infection, and loss of one part would destroy this function. And yet, gp120 and gp41 are viral proteins, and CD4 and CCR5 are human proteins! This is proof that living systems that fit the definition of IC could have evolved separately and independently.

Finally, the ID proposal also raises other difficult questions, especially for theologians. Take the HIV infectivity structure that fits the definition of IC. There is convincing evidence that HIV first appeared in the 1930s in East Africa. If the ID proposal were true, this would suggest that the molecular machine for infectivity was “designed” less than one hundred years ago.

Did the designer creatively introduce the genes for CD4 and CCR5 in the human species in the distant past in anticipation of his introducing the genes for gp120 and gp41 in the HIV viral species in 1930?

Theologically, and more significantly, could this have been done by any other intelligent designer other than the intelligent designer commonly known as God? And if so, what does this say about God: Did He intentionally create us thousands of years ago so that we could be infected by a killer virus in the 20th century?

Why would a good and gracious Father who would not give His sons and daughters a snake if they asked for fish (cf. Lk. 11:11) handicap His children from the start so that they would struggle

and suffer later? These are just a few of the many profound and difficult—and I would add, unnecessary—theological questions raised by the ID proposal.

In the end, from the Thomistic perspective, the ID proposal is a misguided distraction. ID proponents claim that irreducible complexity is a sign for intelligent design. It is a sign of God’s creative hand. However, like their counterparts pushing an atheist and a naturalist account of the world, they mistakenly assume that God works in His creation primarily by pushing

and pulling atoms and molecules like a force, generally, and by assembling and disassembling living systems, more specifically. This god of ID is a small and puny god who is not the creator and sustainer of all things, but a glorified mechanic stepping in to arrange natural things when he feels like it!

As we discussed in an earlier essay in this series, the Creator God revealed in the Sacred Scriptures creates through evolution primarily by giving existence to His creatures as individual members of a natural kind with specific capacities directed to a final end. Existence and not irreducible complexity is the sign par excellence for God’s work! That these molecular machines even exist with their capacities directed towards a final end: this is the sure sign that they were created by an intelligent Designer. **TOE**

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¹ “Questions About Intelligent Design” of the Discovery Institute in Seattle, WA: <http://www.discovery.org/tsc/topQuestions.php>. Last accessed on July 7, 2014.

² Michael Behe, *Darwin’s Black Box: The Biochemical Challenge to Evolution* (New York: Free Press, 1996), p. 39.

³ Nicanor Austriaco, O.P., “The Intelligibility of Intelligent Design,” *Angelicum* 86 (2009): 103-111.

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