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3-9-2018

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Recommended Citation

Jelsma, Tony N., "On Why Design Might Be Detectable" (2018). *Faculty Work Comprehensive List*. 1015.
https://digitalcollections.dordt.edu/faculty_work/1015

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Keywords

intelligent design, developmental biology, God, life, origin

Disciplines

Biology | Christianity

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Re-posted with permission from Sapientia, an online journal of the Carl F.H. Henry Center for Theological Understanding.

Online access:

<http://henrycenter.tiu.edu/2018/03/on-why-design-might-be-detectable/>

On Why Design Might Be Detectable

“Is purposive, intelligent design detectable by the scientific investigation of nature?” My brief answer to this would be, “I don’t know.” However, since you probably want something more substantial, I need to explain my position. My answer will be both theological and scientific (and yes, the question of Intelligent Design can be a scientific question).

Considering the Question Scientifically

I like how the question is carefully worded. Intelligent Design must be *purposive* and *scientifically detectable*. One commonly used indication of Intelligent Design is specified complexity: a feature is complex and its complexity serves a purpose. A pile of rocks is complex but we cannot claim Intelligent Design unless the rocks are arranged in such a way that they accomplish an additional purpose distinct from just being a pile of rocks. Did someone arrange them to form a sculpture? Do they convey a message, like giving directions? In each case, the purpose of the design is not reducible to the chemical and physical components of the object itself. We might not always be able to infer what the purpose is but we could still infer Intelligent Design if the rocks clearly are not randomly distributed. For example, cairns may serve to indicate a trail, a burial site, a food cache, or some astronomical feature (I’m getting these examples from Wikipedia), indicating that they have been intelligently designed. Moreover, we don’t need to know the identity of the designer to infer design.

Second, Intelligent Design must also be scientifically detectable. This is a bit trickier. How can we scientifically demonstrate Intelligent Design? Can we *prove* that something is designed or do we simply posit Intelligent Design as the most likely explanation? For example, we could use probabilities to show that an Intelligent Design explanation is more likely than random causes but those probabilities would be very hard to determine. Alternatively, one could argue that, given our present state of knowledge, there is no other reasonable natural explanation of the feature in question. The problem here is that there may be scenarios that we simply haven’t yet discovered. Ignorance does not constitute evidence of design.

Probably the best example I know of that argues for Intelligent Design is the origin of life. A naturalistic mechanism for the origins of life has numerous challenges to overcome. These include the source of the right building blocks for life, their assembly into the correct macromolecular structures, and the formation of membranes that enclose the contents yet allow appropriate transport of nutrients and wastes across the cell membrane. One can conjure up possible scenarios

for each individual challenge but the chances of all of them working at the same time and place are slim indeed.

There are other possible examples of Intelligent Design in the biological world but they are not as convincing. One such example is the Cambrian explosion, where in a very brief time, geologically speaking, most of the animal phyla first appear in the fossil record. The history of life that is recorded by the fossil record of the Cambrian period suggests a time of rapid morphological change (saltation), raising the question how such rapid change could occur by natural mechanisms. To address this challenge, studies in evolutionary developmental biology (evo-devo) have found that macroevolutionary changes are quite different from microevolutionary ones. Embryonic development occurs using a set of developmental proteins, which function at multiple stages in development to bring about the final form of the organism. Morphological change occurs when these proteins are present at different times or locations, or in different amounts. If these changes occur late in development, they will have minor effects on the final structure of the organism. However, if these changes occur early, development can take a considerably different trajectory, resulting in a drastically different organism. The challenge to such a macroevolutionary change is that such large changes are less likely to produce a functional organism, hence the term “hopeful monster” as a description of this evolutionary process. If these morphological changes are highly unlikely to produce a functional organism, this may be an indication of Intelligent Design. The weakness of this argument for Intelligent Design is that developmental processes are highly coordinated and interconnected, and thus even these drastic changes may well result in a fully functional, yet dramatically different organism. Moreover, we have not yet reproduced such changes in the lab, thus are not yet able to test how likely (and how drastic) such changes may be.

Considering the Question Theologically

We can also view the question of Intelligent Design from a theological perspective. As a Christian, I view the designer (whether or not he manifests himself through Intelligent Design) to be God. There has been considerable debate about *how* God designs (hence this series of articles) but *that* he is the designer is a given for me. Going back to the prompting question for this article, must the creation display scientifically detectable evidences of the Creator? Paul in Romans 1:20 states that God’s power and deity are clearly seen in the creation, but in what way? Must it be through miraculous works or Intelligent Design? Or is God clearly revealed in *everything* we see in creation? Critics of Intelligent Design have often accused it of being a God-of-the-gaps explanation, that is, we see evidence of God’s action where natural explanations fail. But is God excluded when we find natural processes? I agree that God-of-the-gaps is a potentially dangerous position because as explanations that bridge these gaps come along, our God becomes smaller. Moreover, we must resist the temptation to stop looking for a natural explanation when we encounter an apparent example of Intelligent Design. God’s action is not limited to gaps but that doesn’t mean that gaps don’t exist.

God is free to act in any way he wishes. If we did not have any scientific evidence to rule out a “natural” origin of the world, that wouldn’t make him any less God. After all, as Christians we hold that everything that happens in the world, even the mundane, is under God’s providential care. Some people may argue that such a view makes God redundant but I would disagree. We need to develop the mindset that God is involved in everything, not just the miraculous or noteworthy things.

Having said that, I don't have a problem if God did interact in some miraculous way in the process of creation. We see in Scripture that God has acted in such a way in redemptive history, so he might also have done so in creation history. Nonetheless, an argument could be made that God did not use miraculous events (evidence of design) to create the world. Allow me to explain. When we read of miracles in Scripture, they emphasize the divine aspect of the person doing the miracles, whether it is God's messenger or Jesus himself. On the other hand, *all* of creation testifies to God's power and deity (Rom. 1:20), implying that we do not need special miraculous acts of creation to recognize the Creator.

Concluding with a Comment and a Concession

I would like to add a final comment, perhaps even an argument for Intelligent Design, but in a different way from what was asked by the prompting question. What has impressed people like John Polkinghorne is that the world is actually intelligible. If God could have made the world in any way he pleased, why did he choose to make it in such a way that we can study it? Our world is far from being a chaotic world. Instead, we are able to derive principles, describe laws mathematically, and discover the order present in the cosmos. Gonzalez and Richards made a similar argument in their book *The Privileged Planet*. In addition, if God created the world through natural processes alone, isn't it remarkable that the world ended up with creatures like us, who are able to study and think about the world?

In conclusion, I really don't know whether there is purposive, Intelligent Design that is detectable through scientific investigation of nature. While there are evidences that suggest design, *proving* design is difficult. Moreover, theologically speaking, I don't know that God has created in ways that can be scientifically detectable, nor did he need to. What I do know is that I and many other scientists delight in being continually surprised and stimulated by the discoveries that continue to unfold his creation and solve its mysteries.