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Compass Plant Leaves and Apparent Randomness

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Compass Plant Leaves and Apparent Randomness

Abstract

"Just because something appears random (and maybe *actually* is in a very real sense), does not mean that it has no purpose or cannot be shaped into a form."

Posting about God's providence in nature from *In All Things* - an online journal for critical reflection on faith, culture, art, and every ordinary-yet-graced square inch of God's creation.

<https://inallthings.org/compass-plant-leaves-and-apparent-randomness/>

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Comments

In All Things is a publication of the [Andreas Center for Reformed Scholarship and Service at Dordt College](#).

in things

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Photo Courtesy of Jeff Ploegstra

Compass Plant Leaves and Apparent Randomness

Jeff Ploegstra

The image above serves as the background of my computer. It probably looks like a generic leaf to most people, but to me it is an entire sermon. You see, I know many things about that leaf. When I look at it, my mind is filled with images of water potentials, stomata closing down in response to moisture loss, overlapping absorption spectra of carotenoids and chlorophylls, photons bumping electrons, proton gradients developing, ATP synthase turning—all these amazingly intricate details we have uncovered and done our best to describe. It inspires awe.

But it does not end there. I recognize that there is a vast amount of information that we don't know and arguably cannot know—there is even so much that we could never predict. My human mind could never have predicted the position of each leaf vein or

chloroplast, much less which carbon atoms would compose each chlorophyll, or which electron, stolen from a water molecule, would end up in which glucose molecule. So much of what is happening in this simple leaf is apparently random. So much in this leaf seems unpredictable; and yet, I know it is a compass plant leaf (*Silphium laciniatum*). Even given the variability of these leaves, they are always recognizable, identifiable, knowable.

Somehow this leaf assumed a meaningful form that is incredibly well suited to its environment on the Great Plains. What appears sheer chaos at one level, becomes predictable and recognizable form at another.

This sermon has two lessons. First, just because something appears random (and maybe *actually* is in a very real sense), does not mean that it has no purpose or cannot be shaped into a form. It does not mean that God is not intimately engaged in working and sustaining all of it. It just means that it lies outside of *my* ability to truly comprehend it.

Secondly, this is all my *conception* of the leaf. My limitations are profound in understanding all that is happening in that leaf. I have wonderful, imagined models that reflect enormous amounts of collected data and amazing experiments conducted—models that make reliable predictions; models that have allowed us to do incredible things with plants. These models have allowed us to modify plant genomes, optimize their productivity, change their color, make management decisions about crops and wildflowers alike. So, in some sense, I can even say these models are *true*.

In the end however, they are just models. When I say, “just models” I don’t intend to diminish their accuracy, power, validity, or their *elegance*. It is only to acknowledge that they are a reflection of something deeper. On the one hand, a reflection of a material reality—a reality that constantly pushes back against misrepresentation. On the other hand, a reflection of an infinitely imaginative creator who invites us to explore, be humbled by, and care for his ongoing creative work.

These models you see don’t explain away God, they describe His regular providential work. My understanding does not dictate reality—it does not sustain reality, and it does not limit God. If that were the case, Christians world-wide should stop learning right now for fear of making God smaller and smaller. Instead, as we learn more about how the world works, we are given a deeper sense of the immensity of God’s power, His creativity, and His sovereignty.