

COLLOQUY

A CONVERSATION WITH GUTENBERG COLLEGE



Spring 2020

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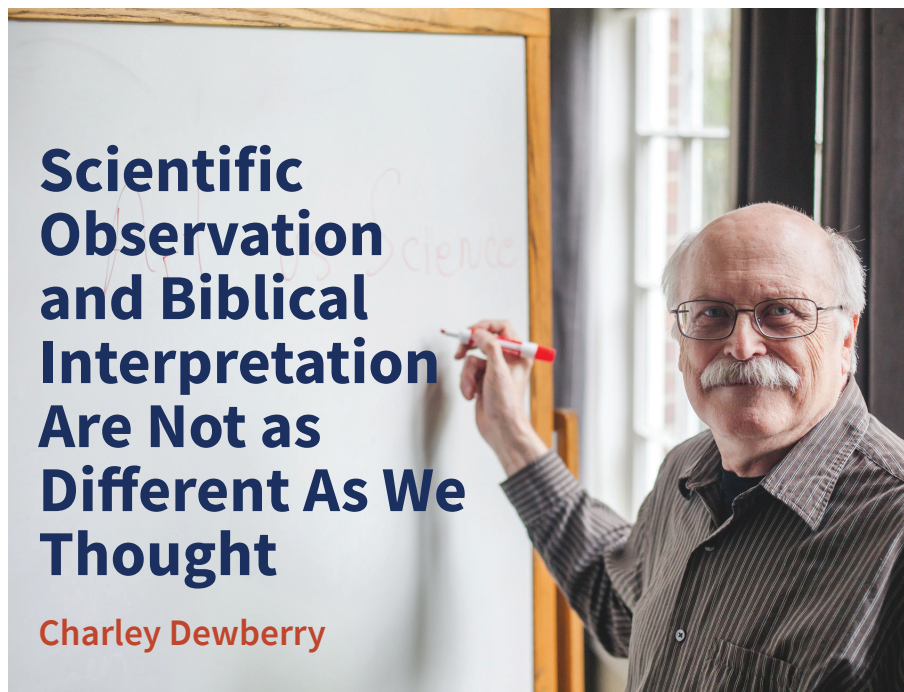
From the President

As Colloquy goes to press, over 600,000 people in the US have tested positive for COVID-19, and many more, no doubt, have contracted it. Authorities are saying that tens of thousands of people will die. We are mostly living at home with little personal contact; many people's livelihoods are threatened or gone; and we are still in the early phases.

To take in the scope of such devastation is impossible. These numbers are more than statistics; each one represents a real person with a real story who is suffering real pain, sadness, fear, or even loss of life. It seems so random and meaningless that a set of proteins smaller than a tiny speck of dust can disrupt our lives so fully and completely.

But I am firmly convinced that there is meaning. God has given us life, and our lives fit into a bigger picture where goodness overcomes evil and suffering, and what seems random is redeemed. To seek the good of those around us, in whatever circumstances we find ourselves, is profoundly meaningful. Our lives and our role in this world are not ultimately made better or worse by our circumstances but by our choices to care or not care for others.

The task we have been given is never easy. It is profoundly difficult, especially in difficult times. But I take comfort that making the attempt to obey God and love others as He has loved us is never random but full of meaning in the most significant sense.



Charley Dewberry

As a research scientist and a Christian, I am interested in what and how we can know about the world and the Bible. The basic questions of epistemology (how and what we know) are equally relevant to both science and the Bible. In this essay, I will examine some of the basic questions raised by a revolution in philosophy of science, explore those same issues relating to biblical interpretation, and discuss how doing science and doing biblical interpretation, while different from one another, are also similar in important ways.

Doing Science

In the 1950s, a revolution in the philosophy of science occurred that radically modified the foundation for science and the method of science. Prior to the revolution, virtually all philosophers of science were “logical positivists.” They shared a view of science and its place in culture. For them, science was about “objective facts” and, therefore, the results more certain. The facts, they would say, are objective because when we observe phenomenon, our minds are passive; sensations are impressed on our minds like a wax seal is impressed on wax. Later, we can make mistakes in interpreting this experience, but the initial experience, what is presented to the eye, cannot be wrong. The logical positivists viewed observation as a mechanical process by which everyone observing the same objects would get the same result. The scientific method, the standard way to do science even today, was designed to take advantage of the fact that the mind is passive during observation. The method was also seen as a mechanical process, whose goal was to prevent the investigators’ biases and presuppositions from interfering with the “objective” observations. If scientists followed the method, every scientist would get the same result. On this basis, then, science was believed to be more objective and certain than other pursuits.

Five years after the revolution, no philosopher of science would claim to be a logical positivist. These philosophers radically changed their minds concerning a basic set of ideas related to science and how to do it. The revolutionaries disagreed, for example, that the mind was passive during observation, instead arguing that the mind was active. As proof, they pointed to well-known ambiguous figures like the old woman/young woman and the duck/rabbit to illustrate the mind’s active role in observation. No one, they said, sees a series of lines first (lines, which according to the logical positives are stamped on a passive mind) and then interprets them as an object; everyone sees only an object.



The revolutionaries' point about the mind being active while observing came home to me one July afternoon in the late 1970s when I was helping teach a class at the Yellowstone Institute. We were collecting aquatic insects in a river in the park when a thunderstorm came over the ridge, bringing with it innumerable lightning strikes as only those mountain storms can produce. As the storm developed, I made the off-hand comment to the students that lightning can go from the ground to the air as well as from the air to the ground. Suddenly many people in the class saw the lightning go both ways for the first time in their lives. I interpreted their new ability to see as confirmation of the revolutionaries' claim that the mind is active while observing. Before my comment, the students were presupposed to believe that lightning only went from the air to the ground, and therefore, their minds constructed that picture from the sensations of their eyes. They saw what they expected to see based on everything they believed to be true (their *preunderstanding*). They did not first see a neutral situation (stationary lightning) and then interpret which way it was going. One sees lightning move down or up in a *particular* case, never the neutral case. This experience seemed to confirm that the mind is indeed active while observing.

But what are we to conclude about the people who did not see the lightning go from the ground to the air? Why did they not see it? Maybe they were right after all. We can visualize a dialogue between two people who see the lightning differently:

Person 1: "See! It goes from the ground to the air."

Person 2: "No, it does not. It goes from the air to the ground."

And so on, *ad infinitum*.

This interchange will never end by appealing to the facts because the facts depend on what the mind is inclined to see. It appears that observation is subjective if the mind is active, and therefore, we must conclude that we cannot know what is objectively true. One person has his perspective, and another person has a different perspective, and there appears to be no standard or arbiter to resolve their difference. Taking a vote of all the people observing a lightning storm cannot determine with certainty what the true situation is. Furthermore, we cannot get outside of our minds "to see what is really there." Finally, if observation is subjective, then we can no longer view the mind as a passive machine, nor can we assume that following the scientific method will give everyone the same result.

Many philosophers have now concluded that because observation is subjective, we have no means for deciding between two options. I disagree. As a Christian, I believe that a God-created reality exists. A lightning strike either goes from the air to the ground or from the ground to the air no matter what I think I see. But given the subjective nature of observation, how can we know what is true? Although I agree with the revolutionaries that observation involves an active mind and is not a mechanical process, I do not see the search for truth as hopeless. Rather, I would argue that observation is a *skill* that we learn and can get better at over time.

I would describe the skill of observation as follows. We start with all we believe to be true (our *preunderstanding*), and then one of two things happens when we observe something new. If what we observe fits with our *preunderstanding*, it becomes one more piece of our *preunderstanding*. If it does not fit, we begin a process of considering new possibilities. We start with possibilities that require the least change to our *preunderstanding*, and we continue until we find a possibility that looks promising—that is, one that seems to describe what we have observed better than what we believed before. We consider a situation that would confirm the possibility. The more important the issue or observation, the more we examine the possibility until we are satisfied that changing our *preunderstanding* is warranted. In the end, a new observation may or may not lead to a radical change in our *preunderstanding*.

All skills, including observation, must be learned by practice, and we can succeed or fail to do a skill as we are learning. Take the example of riding a bicycle. At first, we focus on learning all the "rules"—all the sub-skills involved in riding a bike, like balancing and leaning into a turn. We cannot do them all together, but by practicing, we get more competent even though we may succeed or fail along the way. At some point we no longer

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Is College Worth It?

Chris Swanson

When I was in high school, I knew I was going to attend college. Both my parents had college degrees, and my sister was attending college. My dad was even a university professor. I did well in school, and so it didn't seem like much of a question to me. Of course, I would go; it was what you did. The question "Is college worth it?" did not cross my radar.

I went to a private college, which while expensive, was affordable for my parents. I didn't have to take out loans, and I graduated debt-free, for which I feel a great deal of gratitude. I got a degree in math and physics and went on to get a doctorate in physics. I don't regret the path I took. While I did not end up pursuing physics research (which is what my graduate degree was all about), the answer for me was yes, college was worth it—but not for the reasons you may think.

In the intervening thirty-eight years, the educational landscape has changed. The tuition, room, board, and expenses at the school I attended is now \$66,000 for one year. Granted, few students pay that much, but it is still a daunting number. Naturally, parents and students are asking the question, "Is college worth it?"

This question can be difficult to answer. To put a price tag on one's time in college is hard since there are so many different types of "worth." Students ben-

efit from relationships, knowledge, skill development, broadened perspectives, and, of course, a certificate to launch them into a career. Although these benefits all play a part in deciding about college, one measure of worth seems to have taken center stage in our culture, at least in the press: What is the ROI (return on investment) for college? That is, if college costs, say, \$100,000 over four years, what will be the increase in your earning potential, and when will you break even? Since every individual is different, determining this is tricky, and so we rely on averages. But, in essence, the primary argument for attending college has become that it has a good return on investment. And here are the statistics to prove it:

Education level	Average Salary	Unemployment Rate
No high school diploma	\$25,636	8.0%
High school diploma	\$32,256	5.4%
Some college, no degree	\$38,376	5.0%
Associate's degree	\$41,496	3.8%
Bachelor's degree	\$59,124	2.8%
Master's degree	\$69,732	2.4%
Professional degree	\$89,960	1.5%
Doctoral degree	\$84,396	1.7%

Source: <https://smartasset.com/retirement/the-average-salary-by-education-level>

There it is, as clear as day. More education earns you more money. But does it?


I read a book on economics recently that introduced a very fancy statistical term: "endogeneity bias." It has to do with whether two variables are correlated. Here is a great example: Does going to the hospital produce better health outcomes? It seems obvious that the answer is yes, but let's look at the statistics. If we compare death rates following a hospital visit to death rates for those who did not go to the hospital, we would find that those who went to the hospital were much more likely to die than those who did not. Shall we then conclude that we should avoid the hospital? Of course not. This situation is an example where the statistics do not capture the proper relationship because other things are going on, namely, only very sick people go to the hospital. There is an endogeneity bias since the relationship between "hospital attendance" and "death rate" is not a causal one. The death rate is correlated to hospital admittance, but death is not caused by hospital admittance.

Now let's look at our educational chart again. I would argue that the averages in this chart have a problem like the hospital example. Other factors are at play so that it is not clear if education is the cause of the increased average salary. Many other factors may significantly impact salaries, like parental care, parental education level, parental wealth, ambition, work ethic, natural talent, luck, and so forth. So, for example, probably

people who are ambitious and hard-working and have wealthy parents who attended college also go to college. I would guess that average salary is caused by other factors than college attendance and that education level is similarly caused by these factors. To truly test whether a college education is going to result in a higher salary, one would need to design a test that eliminates all of these other factors. That is not so easy.

When I went to college, I gained many things. I gained some very good problem-solving and thinking skills. I increased my understanding and commitment to God. I grew to appreciate a liberal arts education at a small college. What I didn't gain was a big salary.

My point is that, depending on what you value, there are many reasons to go to college. Our cultural dialogue about "return on investment," however, is completely missing the point. Furthermore, even if a higher salary were the primary reason for attending college, it is not clear that college attendance causes higher salaries.

Undeniably, a college degree is required for many jobs, and this fact must be considered when deciding whether to attend college. However, the "university as gatekeeper" model is an artifact of history and culture. University degrees are neither good nor desirable gatekeepers, but the model is propped up by powerful forces that will not disappear any time soon. Because the question of whether to attend college is important, and because deciding can be difficult, understanding the question and the problematic nature of the arguments is also important. Those arguments are not as clear cut as they at first appear. 

Chris Swanson has been a tutor at Gutenberg since 1994, and in 2016, he became president of the college. He has a B.S. in physics and math and an M.S. and Ph.D. in physics. He did post-doctoral research at the University of Oregon and taught physics at Westmont College in Santa Barbara, California.

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think about the rules; we just ride the bicycle. Acting skillfully—riding the bike in our example—is how we measure the success of any skill. We can appeal to no other standard.

Because observation is a skill, we can also get better at it, but like riding a bike, we must practice the rules (the sub-skills) to become skillful observers. For example, we must learn to make correct judgments, and this takes practice. No mechanical process can replace making judgments. We must also learn to become highly sensitive to clues that our current lens (our preunderstanding) might not be right. In the lightning example, when people considered the possibility that lightning might go from the ground to the air—something they had not considered before—they suddenly saw it go from the ground to the air. In order to see what is really there, one must in some sense be expecting the right thing. Finally, we must learn to be open to the possibility that we may be wrong and learn to consider other possible options.

Doing Biblical Interpretation

While there are some significant differences between doing scientific observation and doing biblical interpretation, interpreting the Bible raises many of the same issues that we find in science.

Some people see biblical interpretation as the positivists saw scientific observation—that is, as a mechanical process where the mind is mostly passive. The most radical version of this interpretive method is this: one just reads the words, and what they mean is clear. This view locates the meaning in the words and assumes that they have clear definitions. In a less radical version, but still a mechanical process, the interpreter looks up the possible word meanings in a lexicon (dictionary) and shuffles the possible meanings in a sentence until he or she hits the one that makes the most sense. So, for example, reading a sentence like "The First National Bank is on the bank of the Willamette River," one would notice that the word "bank" occurs twice in the sentence with different meanings. This method, while allowing greater complexity to the interpretive process, is still mostly a mechanical process of determining the word meanings. I reject these mechanical theories of biblical interpretation on the same grounds I rejected the positivists' perspective on observation. The theory that the mind is active and that biblical interpretation, like observation, is a skill better captures the process of interpretation.

Others view interpreting the Bible more like the revolutionaries in philosophy of science: interpretation is subjective, and we can't know for sure what a text means. I contend, however, that even though observation and interpretation are subjective, we can know truths both in science and in the Bible, and furthermore, that "how we know" is similar in each case. So now let's explore in the context of biblical interpretation the same issues I discussed relating to science.

If we agree with the revolutionaries that scientific interpretation is a skill, we face their same problem when we interpret the Bible: How do we proceed if two people do not agree on the interpretation of a passage? On what grounds can we decide which interpretation is right? You have your interpretation, and I have mine. Like our lightning example, the situation looks like an impasse.

Here is where understanding some significant differences between observation of the world and interpretation of the Bible can be helpful. When observing something through our senses, our sensations are immediately transformed into an object (a whole). We are not aware of the sensations; we observe them tacitly, not consciously. Even if we are not sure of what we see, we still see an object, but it is not clear and distinct. When interpreting the Bible, however, we are reading the words (parts) and constructing the meaning (the whole). We are better able to consciously construct different interpretations of a text than we can construct different interpretations of something we see in nature because we

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Alumni Spotlight: Victoria Titus, Class of 2008



Prancing around this page are pieces of concept art for *The Guardian's Folly*, the working title of a comic that Victoria Titus (née Hershiser) is creating. (The cover illustration for this issue of *Colloquy* is also the cover for *The Guardian's Folly*.) It's a story about two half-brothers, Shadow and Caleg, who are trying to find answers in the wake of a revolution and coup that took their father's life.

Victoria has been drawing for as long as she can remember. Her artwork for *The Guardian's Folly* is digital, mostly done in Clip Studio. Epic webcomics like *Digger*, *Mare Internum*, and *Snarlbear* have inspired her. "I love visual storytelling," says Victoria. "I find it well-suited to the kinds of stories I would like to tell. I am especially fond of webcomics, and over the years, I have benefited greatly from their variety and accessibility (as compared to print-only comics)."



When asked if attending Gutenberg helped her with her art, she said, "Yes and no. Gutenberg greatly improved my ability to learn new skills and to communicate with others. It also exposed me to the people and ideas which have most shaped who I am and, therefore, what I make. But it was not until after I left Gutenberg that I realized I needed to put concrete time and effort into making art intentionally. I almost lost my talent through disuse, and it was several years before I realized that what I had thought of as a personal hobby might actually be part of my calling."

What did Victoria learn at Gutenberg that has especially helped her in later life? "Communication, hands down. How to understand someone who thinks in a different way or who has a different background. How to tell when to back off from a subject that needs emotional space and when to push even if it's uncomfortable. How to recognize bad philosophy. How to love someone you're angry with, or afraid of. How to accept the love of others even when neither they nor you are perfect."



Victoria now lives in New Jersey with her husband, Alex, a Ph.D. candidate at Princeton Theological Seminary; her six-year-old son, Edmund, whom Victoria homeschools; and her two-year-old foster son, Christopher, whom Victoria and her husband are in the process of adopting.

Victoria at Gutenberg



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can slow down the observation process and focus on the parts (words, syntax, etc.). And, as we interact with the parts and the possible combinations, we may suddenly see a new possible meaning.

A second difference between observation of the world and interpretation of the Bible is also significant. When we observe nature, our senses present us with sensations, and the preunderstanding of our mind acts as a lens to construct the observation. Reading a text entails a more complex process. Not only must we observe and interpret the words on the page, we must ask this question: What did the author mean when he wrote it? The author's intent is the key to resolving differences between interpretations, and so the goal is to construct as much of the author's intent as possible. Just as the scientist must develop the skill of making right judgments, the Bible interpreter must learn the skill of selecting the option that best fits with the arrangement of the parts *given the context of the biblical author's preunderstanding*—that is, everything the biblical author believes to be true. Learning this sub-skill is necessary for becoming a good, skilled interpreter of the Bible. In the end, the best interpretation of a passage is the one that considers all the clues in the text to arrive at a correct understanding of the biblical author's preunderstanding.

Conclusion

In the end, most philosophers of science gave up the idea that “how we know” is a mechanical process operating on a passive mind. I think they were right to do so. Coming to know is a skill, not a mechanical process—either for scientific observation or for biblical interpretation.

The implications that follow from this conclusion are profound. We cannot appeal to “objective” facts because, in some sense, they depend on the theory in which they are embedded, the lens through which they are seen. Facts that are highly relevant in one understanding may be tangential and understood differently in another. Thus, science loses its privileged position in culture as the gold standard for how to know because, as it turns out, science is not more objective or its results more certain than other endeavors—like interpreting the Bible.

Scientific observation and biblical interpretation are both skill-based and require an active mind. While some significant differences exist between the two processes, both must grapple with human preunderstanding: the scientist's, the interpreter's, and, in biblical interpretation, the biblical author's. And both must address how to resolve conflicting conclusions, which is possible as both scientists and interpreters become more skillful at their endeavors. 

Charley Dewberry is a tutor and the dean at Gutenberg College, a practicing scientist and stream ecologist, and the author of *Saving Science: A Critique of Science and Its Role in Salmon Recovery* (2004) and *Intelligent Discourse: Exposing the Fallacious Standoff Between Evolution and Intelligent Design* (2006). He has an M.A. in fisheries and wildlife and a Ph.D. in philosophy with an emphasis on philosophy of science.

New Website

In February, Gutenberg launched its new website. Check it out if you haven't seen it yet. Thanks to web designer Clayton Glasser, Gutenberg class of 2011, and many others who helped bring the new website online.

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Summer Institute 2020 Struggle & Hope August 6-8

Life is hard. Most literature and art produced by human beings over the centuries is about suffering, troubles, and struggle. We all experience such troubles in our own lives. And of course, this is one of the major themes explored in the Bible. “Through many tribulations we must enter the kingdom of God” (Acts 14: 22). And yet Paul tells us that we also exult in those tribulations (Romans 5:3). The struggle of faith is in part a struggle to hold on to meaning and hope in the face of the sufferings brought upon us by the world, by each other, and by ourselves. Join us at this year's Summer Institute to explore the challenge of growing in hope as we face the struggles of life.

gutenberg.edu/si

Education Conference The Art of Learning September 3-5

In the predominant view of education, the student's primary job is to consume and store information, much like a computer. But such a view misses the true nature of learning. Learning is a dynamic process in which a student, like an apprentice, slowly builds skills and knowledge, constantly self-correcting toward mastery and a sound worldview. This conference will explore the art of learning through talks and workshops in order to become better learners and better teachers.

Joining us will be guest speakers Nancy Pearcey, Andrew Pudewa, and Leigh Bortins.

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