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Daniel F. A. Hitchcock

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"We see and understand things not as they are but as we are." ~Anthony de Mello— *Awareness* (1990)

Christian mystic Anthony de Mello illustrates today's postmodern view of reality. He seems to say that truth and reality are autonomous, subjective constructions in the eye of the beholder. Thus, Truth claims cannot be judged as true in all contexts for all times but are relative to some frame of reference like personal perception, lan-

Dr. Daniel F. A. Hitchcock is Associate Professor of Psychology at the College of Arts and Sciences at Regent University, Virginia Beach, Virginia.

guage, or culture.

The idea that subjectivity influences the way we interpret the world is not new; neither is the idea that subjective factors influence the methods, discoveries, and applications of human collective efforts. Over the last half-century, the bastion of objective reason has been crumbling at its Enlightenment foundation. Fatal blows have come from insights in psychology and the philosophy of science. Although modern positivistic science has been mortally wounded, I believe an integrative approach can be taken between a strong relativistic position on truth and an absolutist one. The Christian faith as a worldview legitimizes the assertion that there is a "real world" as well as the belief that we perceive it through interpretive lenses, which I will be calling "interpretive frameworks." These frameworks can yield a plurality of views, including imperfect ones.

The goal of this paper is to explore the conflict between the relativistic and absolutist positions on truth, using insights from cognitive psychology, philosophy of science, and Christianity. First, I will highlight how subjectivity takes place at the level of the individual, as described by schema theory. Second, I will show that the same cognitive process lies at the heart of human social efforts via shared interpretive frameworks often called "paradigms." And third, I will address the glaring implication of such subjectiv-

ity. If individuals and groups interpret the world via their own subjective frameworks, the result is relativism, which is antithetical to objective absolute truth that stands firm across all times and contexts. I will argue that Christian worldview philosophy helps resolve the apparent conflict based upon the biblical insight that the way we see and understand reality stems ultimately from the condition of our heart. Interpretive frameworks are fundamental to human nature, and embracing their role in human functioning poses no threat to a biblical view of truth and reality.

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Individual Subjectivity: Cognitive Schema Theory

At the heart of schema theory is the relative nature of human sensory perception. The claim that the process of perception is not an exact match of the original sensation from the external world originates with Immanuel Kant.[1] This idea was given experimental support in the late 1800s by the founder of psychology, Wilhelm Wundt, who researched psychophysics in Germany.[2] For example, I use this demonstration to illustrate how perception is relative. I place two buckets of water in front of the class, one with ice. I ask a volunteer willing to get his or her hand wet, to rate, on a scale of 1 to 10, the temperature of the bucket without ice. This contains cold tap water, and the student usually rates it as a 3 or 4. Next, I have the student rate the ice water—using the same hand—which usually receives an emphatic rating of 1! I then instruct the student to quickly put his or her hand back into first bucket and rate the water anew. The student surprisingly says, "It feels like a 6 or 7." This response reveals that perception is relative and is more dependent upon the current skin temperature than upon the temperature of the stimulus. The point is that, at an individual level, we are bound by an interpretation process that is relative to individual experience.

Over the years this idea has been used to ex-plain a variety of phenomena—especially in memory research and cognitive development. The result has been a theory explaining that subjective interpretive frameworks are used to see and understand the world. Today we call this theory "schema theory," the name originating from Kant.[3] Over the last century, key European psychologists, including Frederick Bartlett and Jean Piaget, have articulated and applied this idea. Bartlett concluded that memory is a reconstruction of interaction with the environment that involves pre-set schemata or frameworks that guide both memory storage and recall.[4] Piaget took the idea of interpretive frameworks beyond memory processing and articulated an entire theory of cognitive development based upon their role in organizing all experience.[5]

When the "cognitive revolution" took place in American psychology in the late 1960s,[6] the mantle was taken up by many, including Ulrich Neisser, who speculated that mental cognitive schemata result from actual physical processes in the nervous system.[7]

Schema theory has even been explanatory in the research areas of artificial intelligence, neural network theory, and neuroscience, by theorists including Michael Arbib.[8] Arbib believes that schema theory is the best explanation for going beyond the *structure* of the brain to an understanding of the *function* of it.[9]

In recent decades, many researchers have confirmed that schemata serve as frameworks that guide interpretation. This confirmation has been shown in domains such as story recall,[10] text comprehension, and speed of recall,[11] linguistics,[12] visual learning,[13] cultural differences in cognition,[14] computational cognition,[15] and problem solving[16] and has been applied widely in various disciplines, including education.[17]

The work by Wundt, Bartlett, Piaget, Neisser and Arbib shows how our cognition is an inherently subjective process. It is the interplay of an individual's sensation and perception and the re-

ality of his or her environment. However, the role of interpretive frameworks does not end here at the individual level, but it extends to how meaning is shared and understood collectively. The same cognitive process lies at the core of human social efforts. Shared interpretive frameworks function in ways that yield collective subjectivity.

Collective Subjectivity

Humans are social creatures, dependent upon the structures of family, society, and culture. Given this social dependency, it makes sense that the use of interpretive frameworks would have a social counterpart seen in groups.

The idea was anticipated first in the 1930s by Lev Vygotsky's sociocultural view of cognition. Vygotsky claimed inter-dependence between individual cognition and the social context in which it takes place.[18] This view, that a type of collective interpretive framework guides group or social functioning, has been articulated in disciplines beyond the social sciences, most notably in the history and philosophy of science.

Over the last half-century, much investigation has looked at the social structure of science. The findings have underscored the role of subjectivity in scientific activity, in contrast to the modernist mindset, which sees science as a purely objective endeavor. The overarching consensus of this work has been that groups of scientists function under a type of conceptual structure that orients their work. This structure is subject to non-science-related influences, such as aesthetics, persuasion, and personalities. Although there is controversy as to who should get credit for the originality of some of his concepts,[19] none can deny that Thomas Kuhn's book *The Structure of Scientific Revolutions*[20] has been one of the most important works published on the topic in the last half-century.[21]

Human Science Guided by Paradigms

Kuhn articulated a new way for understanding scientific progress. He argued that a linear progression of discovery upon discovery—accumulating objective knowledge—was insufficient for describing how science actually works. He proposed a model describing science as un-

predictable and irregular. Rather than a vertical, linear process, he suggested more of a horizontal one of skips and jumps within a single plane, motivated not by anything objective but by subjective, socially-driven factors, such as personality, prestige, and aesthetics. He even used the religious term of "faith" and the metaphor of "conversion" to describe how an individual scientist jumps allegiance from one view to another.

Kuhn's basic concept for describing science centers on the notion of a *paradigm*. A paradigm is a collective conceptual framework that includes a complicated mixture of assumptions, theories, and hypotheses accepted by the group that establish a type of unconscious perimeter within which scientific investigation takes place. Progress is better seen as growth in depth rather than growth in breadth. Science is like digging a well straight down within a defined perimeter.

Although not always known by those working in it, the perimeter of the paradigm is limited. Nature, however, is not so limited; therefore, some discoveries do not fit within the boundaries of the tight-knit paradigm. Someone digging near the edge may accidentally dig beyond the boundary. Kuhn calls such findings "anomalies." They are often ignored and swept under the rug by those who discover them—unless they recur enough to create a crisis within the paradigm: a state of tension for anomalies that can no longer be ignored. When the paradigm can no longer provide a comprehensive explanatory framework, that paradigm must give way to another paradigm in order to accommodate the new data. This giving way shifts the discipline to a completely different and seemingly incompatible paradigm. Kuhn calls this change a "paradigm shift," or a "revolution"—a process of demolition and reconstruction—in contrast to the traditional modernist view of gradual, vertical, linear, and harmonious progress.

Kuhn points to a *gestalt switch* (like a 3D Necker cube drawing) as an analogy to describe this process, where a single set of data can be perceived in two completely different ways—but only one way at a time. Kuhn's description underscores the idea that humans are subjective in their collective interpretation of even scientific

facts, guided by a collective interpretive framework.

Frameworks Do Not Yield Relativism

So far, we have seen two similar descriptions of how humans understand and experience the world, both individually and collectively—via individual and shared interpretive frameworks: cognitive structures of belief and expectations that guide the interpretation of reality. Each description highlights subjectivity in contrast to the objectivity of traditional modernism.

The subjective and non-cumulative process discussed by Kuhn, and also by others such as Polanyi[22] in the 1960s, took direct aim at modernism's objective impartiality and began, in part, to usher in post modernity. The knee-jerk reaction by many in science, as well as in Christianity, has been to resist the sea change to postmodernism. Some have critiqued this change as relativism and anti-science.[23] Christians have resisted such new ideas too because of the danger of runaway relativism. Such a view seems to undermine the Christian conviction of absolute truth's flowing from an almighty sovereign God, who is objectively real.

Granted, the views presented allow for relative interpretation by individuals and groups, but I believe that neither should be classified as endorsing postmodern relativism, which denies the existence of absolute truth. Correctly understood, interpretive frameworks, such as schemata and paradigms, are each quite compatible with objective, absolute reality.

Schemata: Basis For Relativity?

Taking the ideas from cognitive psychology or philosophy of science to an extreme, we find that it does look like postmodern relativism. Yes, human perceptual systems "construct" an understanding of the world that does not always match reality. Yes, humans mentally construct schemata that guide perception. Yes, collective thinking or paradigms seem to be exclusively mind-dependent and subjective—apart from the objective world.

Looking closely, however, we find that neither view negates reality itself. Rather than seeing these conflicting paradigms as supporting the idea that reality is only in the eye of the beholder, we should conclude that the *interpretation* of reality is what is in the eye of the beholder. This latter statement more clearly highlights the role of our imperfect perception and cognition as they interact with the real world, rather than claiming that reality itself is malleable.

Our view should be that a real world exists, and that experiences, based firmly in that real world, can nonetheless be interpreted and understood differently, given the particular framework (i.e., schema or paradigm). John Searle articulates a similar view. He presents a satisfying alternative to the old modernist view as well as to the prevailing postmodern constructionist and deconstructionist views, which both deny any ultimate reality.[24] Searle suggests that two types of facts exist: "brute" facts, which are independent of what humans think about them (such as that Mount Everest has snow), and "social" facts, which are humanly constructed and conceived individually or institutionally (such as a piece of paper is a $5 bill). This position affirms that which cognitive schema theory and philosophers of science, like Kuhn, contend: that a true reality exists and that humans develop interpretive frameworks with which they interpret that reality.

Illusory Schema Conflict:
When relativity is an illusion

One important point to highlight is that sometimes what looks like relativism is only an illusion. Regarding the function of schemata as they guide individual understanding, I see two aspects of the process that can yield what I term "illusory schema conflict." The first deals with multiple exemplars of a single concept, while the other draws attention to the possibility of multiple interpretations of a single exemplar.

Let me illustrate the first with the tallest

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mountain question. If I asked, "What is the tallest mountain on Earth?" most would say Mount Everest in Nepal and China—it stands over 29,000 feet above sea level. However, is Mount Everest really the tallest mountain on Earth? If we invoke different schemata to define the concept of "tallest mountain," there can be a plurality of correct answers:

- Tallest from its base below sea level (under water): Mauna Kea in Hawaii, 33,480 feet.
- Tallest rising from ocean floor: Mount Lamlam, Guam, 37,820 feet from the Mariana Trench
- Tallest from center of the earth: Mount Chimborazo in Ecuador, over 20 million feet.

The use of different schemata underscores the role of definition and context. Interpersonal misunderstandings are often caused by this type of schema conflict. Two different interpretive frameworks are correctly used, but they come to disparate conclusions. These differences show that sometimes differences may be due not to whether someone is wrong or right but simply to the fact that more than one point of view is viable.

The second type of schema conflict occurs when differing schemata are derived honestly from a single exemplar. An illustration of this is the ancient parable from India about six blind men walking who encounter an obstacle in their path. As each reaches out to touch what is in his way, the six have an awful argument because none can agree on what it is. One says it's a spear, another says it is a hose, while yet another claims it is a fan. The fourth declares it is a wall, but another claims it is a pillar, and the last is convinced it is a rope with a brush on its end. What they have encountered? The moral derived is that there are many ways to describe an elephant and that individual perception is limited. Some argue that this parable illustrates relativity—that each man experienced his own truth, valid for him and not the others. However, I suggest a more cryptic meaning. Yes, each man's framework was different from that of the others, but the six views actually come together to form a more complete

whole.

This way of looking at the story highlights a distinction between the two types of schema conflict. The first, illustrated by the mountain story, affirms the multiplicity of truth, mediated by context, while the elephant story shows that a grand truth may lie behind multiple interpretations. This latter example emphasizes how seemingly differing views may actually come together to provide a more complete understanding. The apostle Paul makes a similar point in Romans and I Corinthians when he explains that although there are many separate parts of the body, they function together as a whole.[25] This principle applies not only to the physical body and the Church of Jesus Christ but also to human cognitive function.

In both cases of illusory schema conflict, the conflict seems to reveal incompatible ways of understanding when, in actuality, the conflicting schemata or views can be shown to be simultaneously totally true.

This raises the question of whether we, individually or collectively, are capable of seeing beyond our own interpretive frameworks to perceive the whole. No doubt, this perception of the whole might be possible, but probably not in all circumstances because we have been created with limits: normative limits imposed simply by the fact that we are created creatures and by the intrusion and distortion of sin.[26] Both types of limitations probably play a role in obstructing our view of the whole. I speculate that some portions of our limited view, specifically those due to the distortion of sin, are potentially fixable, or at least partially, via sanctification; but post-consummation, some of these limits will be entirely gone, and we will experience knowledge of the true-for-all-time, uber-framework.

An Uber-framework?

An uber-framework is the idea that there exists an overarching metanarrative that gives ultimate meaning to varying and sometimes seemingly disparate cultural and/or individual narratives. Several Christian scholars have argued for the existence of such a superior framework.[27] For example, Roy Clouser makes a case for an

overarching framework that subsumes both pure Aristotelian objectivity and Kantian subjectivity and provides a third alternative: that ultimate knowledge lies with God alone. Clouser suggests that there exists an overarching uber-framework, albeit in the mind of God alone, that subsumes all others.[28]

This idea has been articulated by many in the context of worldview philosophy, particularly by Christians who believe that in God lies ultimate truth, or the true worldview of worldviews—the uber-framework. In my judgment, the concept *paradigm* that we have described thus far in the context of the philosophy of science is identical in essence and function with the concept of *worldview* that has been articulated by many Christian philosophers.

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Christian Worldview Philosophy

In David Naugle's in-depth look at the concept of worldview, he traces the idea of an overarching worldview that explains all reality—back to the Reformation writings of John Calvin and then, in the late 1800s, to Scottish theologian James Orr and Dutch theologian Abraham Kuyper.[29] As the more well-known of these two, Kuyper's version will be described briefly.

Kuyperian Worldview Philosophy

Kuyper is known for applying Calvinism to everyday life, focusing on the sovereignty of the God of the Bible over all aspects of reality: cosmos, culture and thought. Calvin believed that God revealed Himself to humans via the created order, as well as through the Bible, the infallible and inerrant words written under the influence of the Holy Spirit. Of these two revelations, Calvin gave priority to the Bible when he used the metaphor of the Scriptures being spectacles through which humans are to interpret and understand the rest of God's creation.[30] In other words, Calvin claimed that God, as sovereign creator of all things, is the ultimate source of all knowledge and Truth and that the Bible is a direct filter for Truth. Kuyper believed that people can and should understand Christianity as a holistic and comprehensive philosophy of life rather than as just one compartmental aspect of human experience.[31, 32]

This is where Kuyper highlights worldview as a type of interpretive framework. The term itself is translated from the German word *Weltanschauung*, which means "a particular way of looking at the world." The term originates with Kant, as we saw with the term *schema*.[33] Since his time, it has come to mean a set of underlying assumptions that define the spirit of the age or the particular way a culture manifests itself in literature, art, philosophy, and science. Kuyper used the term to suggest that multiple worldviews can co-exist and be in conflict with one another while competing for people's allegiance.

In his day, Kuyper identified two opposing "faiths," or worldviews, that were in direct conflict: modernism versus Christianity. Kuyper suggested that the conflict resulted ultimately from Adam and Eve's fall in to sin. The Fall produced an antithesis, or tension between God and idolatry (or evil), that is manifested in all human endeavors. Relating this antithesis to science, for example, Naugle states,

> Kuyper argues [that]… regenerate people with a Christian worldview produce a … theistic interpretation of science, and non-regenerate people with a non-Christian worldview produce an idolatrous science …. Scientific reason is not the same for all people. It depends upon whether or not the scientist has or has not been religiously renewed. There is not a neutral scientific rationality leading to certain objective and shared conclusions. Instead, scientific theories are a function of the religious backgrounds and philosophical orientations of the scientists or theorists.[34]

It is important to point out that the conflict is not in the science itself but in the conclusions

made (i.e., interpretation and application).

Kuyper is basically arguing that collective interpretive frameworks function in society. His argument is similar to our earlier description of collective cognition as seemingly relative. But Kuyper's Christian worldview philosophy is clearly based on a belief that there is a real creator, God, who is objectively manifest in the material creation as well as in the Bible. Both realms are objectively true. But seeming relativity comes into Kuyper's thought when he claims that there are different interpretations of that reality: "abnormal" and "normal," as he termed them.[35] Those who are regenerated by the power of God's Holy Spirit are given a new outlook, which allows them to understand that the cosmos is in an abnormal state due to sin and in need of redemption through Jesus Christ, but those who are unregenerate see all as normal and see the need for Christ as folly. The result is a difference in interpretation of a single reality, not a difference between two constructed realities that are mutually exclusive.

One implication from Christian Worldview philosophy is that God's reality is the uber-framework—the true paradigm or schemata, the only correct interpretation—and that human access to the framework is only possible by regeneration of the Holy Spirit. The reverse implication is that without God's action, flawed frameworks or wrong schemata, paradigms, or worldviews exist, leading to framework errors at all levels.

Another implication is that because the Holy Spirit's regeneration focuses inwardly, we may need to consider that our interpretive frameworks are more than cognitive. Recently, some have begun to critique[36] the idea of worldview as a static, theoretical, and cognitive process and to direct us to see our interpretive frameworks as coming from the heart—which encompasses our identity more holistically.[37] For example, Jamie Smith suggests that when talking about worldview, we need to move to a more non-cognitive, affective model, which includes our cares, concerns, motivations, and desires.[38] Based upon insight from Esther Meek,[39] Naugle argues that "the heart needs to be rooted in the physical body…and anchored in the ebb and flow of the real world,"[40]

meaning that knowing with the heart, which is the center of human consciousness, involves the totality of our being. This is where our individual cognitive schemata intermingle with our collective paradigms and worldviews and guide us in holistic biological, psychological, and social consciousness.

Conclusion

The interpretive frameworks we have looked at (cognitive schemata, paradigms, and worldviews) seem to all function in a common way—as filters to help us understand the world around us. This way of human perception seems to be by design. God created us to gain individual and social knowledge through interpretive frameworks. These frameworks provide a starting point as well as an important heuristic for our exploration and progress in fulfilling the cultural mandate.[41]

One aspect of this design is clear: there are limitations. We are limited perceivers but will someday be freed from at least part of the limitation. Human nature is restricted in that we are creatures created by God and, as such, will never apprehend fully the true uber-worldview, which is known by God alone. We all are affected by the distortion of sin, which implies that some of the subjectivity of our cognitive perceptions is due to sin. This distortion explains why errors happen at all levels of our interpretive frameworks.

The Christian's hope is that Christ's redemptive work of restoration will yield for us a more complete way of knowing at His second coming. As the apostle Paul said, "Now I know in part; then I shall know fully." We have confidence that part of the limitation in our ability to know will be removed.

Perhaps without sin's effect upon our interpretive frameworks, we may share a common perceptual organization, language, culture, paradigm, and worldview. Having a shared interpretive framework seems consistent with the biblical theme of restoration. Recall that the origin of multiple languages and culture groups came from God's judgment of sin at the Tower of Babel. Perhaps God will bring "heart" and "cognitive" unity to all the diverse nations who occupy the new Jerusalem by establishing a common

set of interpretive frameworks for all its citizens.

The biblical narrative of creation, fall, redemption, and consummation is the human entrance into God's true worldview, the uber-framework, where God's people will know more fully, which may mean to know in the same way from percept to thought to culture. When that day arrives, we all, including Anthony de Mello, will no longer see and understand things as we were, but will see and understand them as God intended, as they truly are.

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