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Contemporary Challenges to the Pursuit of Truth

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In our current cultural climate, a growing problem is not so much the abandonment of belief in truth, but the absence of a commonly held basis upon which to discern between competing truth claims. This problem goes far beyond the rejection of established scientific paradigms, to the inability to agree on truth claims of any kind, even objective observational facts. Without a shared reality, there can be no shared pursuit of truth rooted in observations of a real universe. There are thus no common criteria by which statements about the world, and events in that world, can be judged. This lack of agreement on how to evaluate truth claims, and the divisions that result, is a cause for concern in both the secular and Christian communities.

Keywords: nature of science, consensus, historical context, cultural diversity, confirmation bias

Obstacles to the Pursuit of Truth

In recent years, social media and polemical "news" have gained increasing influence over society. The various social media platforms have also enabled the extremely rapid dissemination of falsehoods, misrepresentation, and conspiracies. The worldwide web has given us access to an almost unlimited volume of unfiltered information and opinion. As a result, it has become increasingly difficult for individuals to discern the difference between truth and error. Almost any falsehood will find a ready online community of people who will accept and promote it. As a consequence, encompassing false realities are being created.

There are several underlying factors that have come together in our current culture to undermine a common understanding of pathways to greater knowledge of the truth. These factors have resulted in unfounded attacks on foundational scientific conclusions and the rise of alternative scientific claims inconsistent with current evidence and practice. However, more than just scientific claims are faced with these challenges. The inability to critically evaluate truth claims has affected all areas of human knowledge, social interaction, and historical understanding.

Obtaining a broad cultural acceptance of the standards by which truth claims are evaluated requires confronting a number of widespread barriers to the pursuit of truth. These barriers are the following:

1. The absence of shared presuppositions and methodologies needed to ground the pursuit of truth and reject claims without evidentiary support;
2. The loss of trust in the consensus views of expert communities, allowing the views of anyone to be treated as equally authoritative;
3. The lack of historical knowledge, or a rejection of its value, that removes a critical foundation for understanding and evaluating truth claims and correcting biases;
4. The increased polarization of society separating people into like-minded communities so that they are isolated

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from diverse disciplinary, cultural, and religious perspective; and

5. Probably most significantly, the ubiquitous presence of personal confirmation bias, and our temptation to reflexively defend our views.

The Absence of Shared Presuppositions and Methodologies

Our knowledge of the physical universe rests on several basic presuppositions: (1) there is an objective physical reality independent of the observer; (2) our senses give us real information about that physical reality; and (3) that reality is substantially comprehensible to us.[1] This understanding of truth is called realism. Realism is based on the commonsense arguments of eighteenth-century philosopher Thomas Reid, who advocated it as the only secure foundation for philosophy and science.[2] We pursue knowledge that corresponds with reality—that which is true. The object of knowledge is to move our understanding closer to the truth of the objective reality of the universe.

Furthermore, our perceptions and truth claims must be tested against that objective reality. As stated by Hugh Gauch, "… presuppositions answer the question: How can we reach any conclusion to an inquiry? But evidence answers the question: How can we assert one particular conclusion rather than another?"[3] In short, observational evidence matters.

In contrast to realists, skeptics and relativists claim that all that we have are our personal perceptions, and they deny that the world is objectively real or comprehensible. As summarized by Gauch, "Relativism accepts personal truth-for-me but not public truth-for-everyone, so there is no objective and shared knowledge about the world such as the scientific community claims."[4] In our current culture, it is not uncommon to hear truth used as a synonym for what any particular group, or individual, believes. It is as though I can have my "truth" and you can have your "truth." If truth is to have any meaning at all, it is that it represents the real nature and history of the universe, and the real history of human events. In this sense, there are no competing alternative "truths."

A belief in a creator God whose character and being are unchanging undergirds belief in an objective reality. It similarly provides a basis for the expectation that the natural world follows regular, consistent, and predictable patterns. Such an expectation undergirds the practice of science as well as the ability to practically interact with the natural world around us. Furthermore, the belief that God does not lie or deceive gives us confidence that our senses provide access to true aspects of the physical creation. The "very good" physical creation, and our own physical embodiment, validate the value and truthful integrity of physical reality. Truth claims that deny or reject the testimony of our senses are inconsistent with a creator God who is a God of truth. Such a denial also makes the search for truth rudderless.

What is true about the universe is true regardless of whether we know it, or believe it, to be true. It is the pursuit of the objective truth of the physical universe that unites all the sciences. We continually strive to obtain the knowledge of that truth, yet complete knowledge remains elusive. No one knows the full truth about anything. But we can have confidence that our search can move us ever closer to a fuller knowledge and understanding of reality. We progress in our knowledge of the truth through the continual testing of our limited conceptions against observations of that external reality.

In addition to the broad essential presuppositions necessary for the pursuit of science, there are related fundamental perspectives that undergird the description and interpretation of our observations of physical reality. These include the recognition that observational "facts" are not the goal, but rather, it is the construction of explanatory theories that give meaning to our observations and provide the predictions that guide further research. Furthermore, theories are not widely held because they are "proven," but because they provide the best current explanation of a wide range of observations. Much of the public rejection of scientific conclusions is rooted in misunderstanding these and other aspects of the nature of science.[5]

Science education at all levels needs to incorporate how knowledge of the natural world is actually acquired.

> The nature of science needs to be taught as part of the subject content, and currently accepted theories need to be understood as the result of a long process of rigorous testing and challenge within a diverse community of scientists. Students need to understand science as a dynamic, exciting, open-ended, and thoroughly human activity. Science is

> a process of developing explanations for how our natural world works, of making sense of our diverse observations of the world around us.[6]

The absence of a common basis for testing truth claims results in the individual becoming the arbiter of truth. Our perceptions of truth must be continually tested against external reality, and against the perceptions of others similarly pursuing the objective truths of the universe. We do not construct truth but discover it, and discovery requires engagement with the real world.

Practically, the pursuit of truth occurs in specialized communities of individuals that share a particular interest and expertise. Each discipline, each area of knowledge or skill, has its own set of standards and methods, and its own unique perspective and contribution to a broader understanding of truth. A more complete picture of reality requires integration of these diverse disciplines. Furthermore, because science is limited to describing only natural phenomena in terms of natural causal agents, a full understanding of reality requires conversations with bearers of knowledge outside of science. Science is not the sole arbiter of truth.

While holding basic presuppositions and interests in common, the members of a discipline community also need to cross boundaries of nationality, race, religious affiliation, culture, sexual identity, etc. Our individual perspectives are informed by our personal experiences and cultural histories, and thus have a limited scope with unrecognized blind spots. A fuller and truer understanding of a topic thus requires the consideration of perspectives other than our own. Isolated individuals or groups are much more likely to fall into serious error. This is as true in the discernment of moral and spiritual truth as it is in seeking knowledge of the natural world.

We must always be aware that our knowledge of the truth is limited and is always subject to correction. We are imperfect beings, and our knowledge is imperfect and incomplete, and always will be. Our understanding of truth (both physical and spiritual) is not static but evolves. There are no "proven" understandings of reality that are not potentially subject to change. We need to hold our understanding of truth with an open hand. Refusal to change one's understanding of what is true is not praiseworthy, if that understanding is in error. Being willing to doubt one's positions and beliefs is not a sign of intellectual or spiritual weakness, but an acknowledgment of our incomplete knowledge. As stated by Os Guinness, "If doubt is eventually justified, we were believing what clearly was not worth believing. But if doubt is answered, our faith has grown stronger still."[8]

The Loss of Trust in the Consensus of Expert Communities

The views of the expert community within a discipline matter. That community is the repository for the body of knowledge in that discipline. Our knowledge is always cumulative; it is built on the observations, insights, and explanatory models that have gone before. Previous understandings of reality are absorbed into the new. Despite the shifts—even dramatic ones—in the accepted models and theories that make sense of our world, there is continuity. Any new consensus view must make sense of all that came before.

Consensus within a discipline is hard won. A community of trained experts is by nature conservative and resistant to change. New ideas must prove themselves by accumulating a persuasive body of evidence in their support that is able to win over the practitioners of a discipline. Consensus does not mean unanimity, but it represents the current best-supported position on the topic of interest. The current consensus may be in error, but it cannot be dismissed. Where there is no consensus on a question, positions should be held more lightly.

The search for truth is a cooperative and community endeavor, and the consensus of that community provides stability and direction to that search. It keeps the research community working together toward a common goal, preventing the fragmentation of that community into numerous groups pursuing unsupported ideas and hypotheses.

This community approach is as critical to the pursuit of theological truth as to truth about the natural world. Theological consensus helps keep the church from being "blown here and there by every wind of teaching" (Eph. 4:14).

Within the scientific community, peer review is an important component of the testing of ideas and claims within a particular discipline. This first step of critical review seeks to evaluate whether an author has followed accepted methods of data collection, processing, and interpretation. Passing peer

review does not promise acceptance by the larger community, but rather, it provides the opportunity to persuade others of the value of the contribution. Articles rejected by peer review, or later retracted, have been used to gain public support for marginal views that conflict with consensus. This can have real, practical, and damaging consequences for the public.[9]

Critical review is needed in the pursuit of any truth, not just in the context of scientific research. Ideas need to be set before the broader community of relevant experts for productive dialogue and critical evaluation. Communication among practitioners within and across all disciplines is necessary to test ideas and discover errors. In pursuit of truth, we should not fear this testing, critique, and challenge of our ideas and beliefs. We are all certainly in error at some points in virtually anything that we accept as true. Those errors will not be found out, if we remain isolated from other perspectives. Our tendency toward confirmation bias makes the interaction with a diverse community even more pressing.

In his essay on the search for theological truth, William Badke wrote as follows:

> An increasing body of research is making it plain that our supposed dispassionate rationalism by which we make decisions based on evidence is in good measure an illusion. We are plagued by a tendency toward confirmation bias, by which we give greater credence to evidence that supports our existing beliefs, and we discount contradictory voices. None of us are immune from such bias. It supports our propensity to fall for fake social media reports that confirm our present views. It also causes us to downplay academic evidence that contradicts our current beliefs, even as we buy into potentially faulty evidence that agrees with our position.[10]

This tendency is manifest in deciding on the veracity of any truth claim.

The proliferation of literature, online resources, and institutions that promote marginal positions that are divorced from critical review by the larger community prevents the proper testing of ideas. Furthermore, false views can gain widespread support if presented to the public without, or in defiance of, criticism and correction. It is in the process of seeking consensus—of having our ideas and beliefs challenged and tested within a diverse community—that our errors and biases can be exposed and corrected.

One of the common misunderstandings about science is that individuals or groups isolated from the larger community of practitioners can successfully do good science and move our understanding forward. As emphasized by Henry Bauer, "If one understands that science is inescapably a cooperative enterprise, one can appropriately view as pseudoscience any claims made from outside the competent, relevant scientific community."[11] Given our desires to see our current views supported, such isolation is an invitation to error. This is equally true within non-scientific disciplines.

Badke emphasizes the importance of expert communities in the search for truth.

> We do need to be searching for truth, defined as what is substantially correct and in agreement with the best evidence. But I don't think it's a simple path in our diverse world. Let me suggest this: We need to return to a world in which we trust the expertise of those who know. … Experts operate within a guild, a consortium of people who share the same kind of expertise and methodology. They critique and judge the contributions of one another according to standards that have stood the test of time. … Just remember that everything experts know is open to challenge by other experts. That is how the best knowledge environment works, ever being tested with new evidence, ever being nuanced with better understanding. When we lose the web of expertise that can make our information properly testable, we lose the very foundation of our society.[12]

The desire to confirm already firmly held views causes people to look to sources of authority outside of the relevant expert communities for information and answers to questions. These authorities are often chosen because they confirm one's views and on the basis of personality, charisma, or personal relationship, whereas the positions of experts that challenge those views are greeted with skepticism or outright rejection. Such alternative authorities have themselves typically not made the effort to understand the basis for positions they dispute, and they often lack knowledge of the topics for which they claim authority. The rise of the Web and social media, and the access to unfiltered information, has made finding such alternative authorities very easy. As stated by Badke,

> It's become common for people to view experts as biased, authoritarian, elitist, out of touch—you name the accusation. The rise of digital access has only exacerbated the problem, leveling knowledge and its creators, so that we are much more likely to

> determine authority on the basis of what sounds right to us.[13]

Furthermore, the vast prevalence of social media has resulted in the tendency for people to accept false claims and disseminate them without first testing.

As stated by Steven Novella, the easy access to unfiltered information

> … creates the powerful illusion of knowledge—I have a world of facts at my finger tips, with no middle-man to get in the way or decide which facts to feed me. Trust in experts and authority has collapsed.[14]

Countering this tendency requires significant personal work. Novella writes:

> That work involves the various processes of critical thinking. We have to evaluate experts, authorities, and claims based upon objective criteria—facts and logic. But more than this (because even flat-earthers think they do this) we need to step back from our beliefs and our own biases and try to chart as objective a path as possible. We have to try to prove ourselves wrong. We need to divorce our own identities and sense of worth and tribalism from any particular conclusion, and take pride instead in the validity of the process.[15]

The Lack of Historical Knowledge

All current knowledge is embedded in a historical context. Our current body of knowledge, theoretical conceptions, and technology is one point on a historical continuum built upon the past and open to the future. It is also a reflection of cultural and social contexts at particular times and places. As stated by Nicholas Rescher,

> Our theorizing about the nature of the real is a fallible estimation, the best that can be done at this time, in this particular state of the art. Our science is a historical phenomenon; it is one transitory state of things in an ongoing process.[16]

Furthermore,

> there is nothing epistemically privileged about the present—any present, our own prominently included. Such a perspective indicates not only the incompleteness of our knowledge but its presumptive incorrectness as well.[17]

What we currently understand as true is the result of a historical process of correction, modification, and expansion. Our understanding of truth, all truth, is dynamic and progressive. The practice of any discipline requires a knowledge of its historical foundations. Time and place matter. Historical context provides a critical foundation for understanding and evaluating current claims. Truth claims do not appear in a vacuum.

An understanding of the history of ideas is the basis for answering critical questions.

- Why do we know what we know?
- Why do we hold the position on a topic that we do?
- What has caused past perspectives or understandings to be replaced?
- What is the context in which a particular truth claim was made?
- What evidence was used to support the claim?
- Was there a particular motive involved (was the claim made in support of a larger argument)?

The answers to these questions provide the context needed to approach the search for truth with humility and openness to correction and change.

History is our teacher, and all disciplines need to be taught in a historical context. Without historical knowledge, our current understandings and beliefs are unanchored. Without it, we don't really know why we believe the things that we do. History provides a foundation for current knowledge which is always the end result of a long process of change, discovery, and correction. Knowledge of the history of ideas guards against being deceived. A historical perspective also brings a certain humility and recognition that our current understandings are incomplete, and in some ways wrong. Loss of historical memory leads to hubris and the repetition of past errors.

History is about remembering, and historical context provides the scaffolding that supports confidence in particular truth claims, while bringing into question others. There is a reason why the prophets in scripture repeatedly call people to remember. God is the God of history and is revealed in history. Remembering helps to guard against repeating previous errors. There is a great wealth of recorded human experience, both good and bad, for us to learn from. We may find answers to our own questions and direction in our own circumstances through the record of the thoughts, questions, struggles, and failures of those before us.

History also helps us understand the influence of culture on what we accept as true. Even our understandings of the physical universe are conditioned by cultural context. As stated by David Livingstone, "... science is not above culture; it is part of culture. Science does not transcend our particularities; it discloses them. Science is not a disembodied entity; it is incarnated in human beings."[18] What is true of science is true of all knowledge. We are all products of our culturally inherited worldviews and histories. Cultural, national, and individual histories all matter.

The dominance of white European perspectives minimizes the contributions and values of other cultures, and it also feeds into caricatures that reinforce racial and cultural biases. As argued by Allison Skinner-Dorkenoo,

> The concentration of power and privilege among white people in the USA means that white people largely write the histories, set the norms and define the values of American society. This centering of white people can be seen in historical narratives, cultural products and cultural beliefs, which can all contribute to the development of individual-level racial biases.[19]

Furthermore,

> the same history and culture can be represented differently depending on who is curating and constructing the representation.[20]

Because our understanding of the world and our approach to understanding it are influenced by our culture, it is important that we listen to the perspectives of those with different worldviews if we are to honestly pursue universal truths. It is especially important to recognize the history and culture of minority and non-western communities. For example, the histories of the Black and indigenous communities provide unique perspectives that can inform our understanding relative to a wide range of questions concerning land stewardship, resource extraction, economics, social justice, and many more. This will be discussed in more detail in the following section.

Isolation from Diverse Perspectives

There are two basic ways in which the pursuit of knowledge has been fragmented. Firstly is the division of knowledge into increasingly highly specialized compartments. At the same time, answers to many of our most pressing problems require broad interdisciplinary efforts. These include climate change and its repercussions, ecological consequences of resource extraction, gene editing and its application and ethics, artificial intelligence development and application, and many others. The lack of collaboration across disciplines becomes a barrier to advancing our knowledge. Collaboration is a necessity, not only between the various scientific disciplines, but also between the science disciplines and all other areas of human knowledge and experience. This includes the perspectives of the arts, philosophy, history, religion, and other disciplines.

The second way in which knowledge has been fragmented is by the lack of productive interaction with individuals who are not part of the white western European cultural inheritance. Multiple expert communities with different cultural, historical, and religious perspectives exist within any particular area of study. Engaging with these diverse perspectives can result in a more complete and fruitful consensus. There is a particular need for the inclusion of the cultural perspectives of marginalized and indigenous communities that have largely been locked out of any meaningful contribution to global institutions of learning and practice.

Indigenous peoples have largely been excluded from contributing to the advancement of knowledge. This is particularly apparent in environmental science and conservation. In their analysis of indigenous contributions, Diana Lewis, Lewis Williams, and Rhys Jones state,

> While it is generally accepted that Indigenous knowledges (IK) hold much significance for climate change strategies, culturally dominant Eurocentric social structures, norms and conventions ensure their marginalization at broader and more influential decision-making levels.[21]

The perspectives of indigenous women are particularly valuable. Furthermore,

> … changes wrought by climate change are generally exacerbating the colonial-rooted inequalities that Indigenous women have historically experienced, yet little research has been conducted from an Indigenous feminist perspective.[22]

Melanie Zurba and Anastasia Papadopoulos similarly state,

> Even though it is widely agreed that indigenous participation and knowledge is critical to effective environmental governance, a frequent commentary

> and position presented from the articles reviewed was that representation of indigenous peoples is often overlooked or outwardly denied in global governance spaces.[23]

At a more individual level, indigenous knowledge and research meets considerable resistance from a scientific community that is trained in an "objective" approach that distances itself from what is studied.

Robin Wall Kimmerer gives voice to this disconnect in her wonderful book Braiding Sweetgrass.

> My natural inclination was to see relationships, to seek the threads that connect the world, to join instead of divide. But science is rigorous in separating the observer from the observed, and the observed from the observer.[24]

Furthermore,

> Getting scientists to consider the validity of Indigenous knowledge is like swimming upstream in cold, cold water. They've been so conditioned to be skeptical of even the hardest of hard data that bending their minds toward theories that are verified without the expected graphs or equations is tough. Couple that with the unblinking assumption that science has cornered the market on truth and there's not much room for discussion.[25]

Amanda Black and Jason Tylianakis have argued that indigenous knowledge can "complement and enhance" the teaching of science and will benefit both students and society in the face of global environmental challenges.[26]

Gender is also an area where there is inequity in the contribution to the advancement of knowledge. Until very recently, women were largely excluded from making important contributions to scientific research. Jane Goodall recounts how her approach to her field studies of chimpanzees ran afoul of the expected detached treatment of her subjects.

> In order to collect good, scientific data, one is told, it is necessary to be coldly objective. You record accurately what you see and, above all, you do not permit yourself to have any empathy with your subjects. Fortunately I did not know that during the early months at Gombe. A great deal of my understanding of these intelligent beings was built up just *because* I felt such empathy with them.[27]

Goodall's work ended up transforming our understanding of primate behavior. Without her breaking through others' expectations, we would not have gained much of our present understanding of primates.

This same problem of excluding minority voices has also influenced biblical interpretation and theological perspectives. The lived history of the African American community has much to contribute to our understanding of scripture and religious practice. As Esau McCaulley argues,

> If our cultures and histories define the totality of our interpretive enterprise, the price of admission can be complete acquiescence to that culture's particularities. This is as true with European domination of the text as it would be if Black culture completely sets the contours for the debate. But if we all read the biblical text assuming that God is able to speak a coherent word to us through it, then we can discuss the meanings our varied cultures have gleaned from the Scriptures.[28]

Drew Hart has similarly emphasized that the experiences of the Black church give it special insight into the teachings of Jesus. Poor, marginalized, and oppressed communities have much to teach the church about the meaning of scripture and the expression of the Kingdom of God.[29]

The easy access to unfiltered information has ironically increased our isolation and polarization by allowing people to stay within their own echo chambers and by preventing communication across divides. This has been accentuated in recent years as social media platforms and polemical programming have gained increasing influence over society. The separation of people into like-minded communities has prevented interaction between people of different races, cultures, sexual orientations, national identities, religious affiliations, political allegiances, educational backgrounds. Consequently, different competing perspectives exist within different communities.

This lack of interaction with people different from us not only deprives us of valuable insights, but also leads to misunderstanding, prejudice, and fear. People often fear what they do not know or understand. Listening to the experience of others is an important beginning in our understanding of the basis for their views and perspectives. It also allows us to be more attentive to how our own cultural, religious, and economic inheritance has shaped our views, both positively and negatively.

The vision of the Kingdom of God is one of ethnic and racial diversity (see Rev. 7:9–10). However, the reality is that congregations tend to be segregated along lines of culture, racial identity, nationality,

education, income, and social status. This segregation has deprived the church of valuable lived experiences, spiritual gifts, and scriptural insights. As Christians, our common ground should be the call to follow the example of the life, ministry, and words of Jesus. This can be done only with the participation of all who claim that call. The church is to be an example of a diverse community seeking and applying truth by valuing and embracing that diversity.

The Unwillingness to Set Aside Personal Egos

In the end, the biggest obstacle to the pursuit of truth is our own ego. As stated by Scott Barry Kaufman, the pressing need is for everyone to quiet their egos. He defines the ego as

> *that aspect of the self that has the incessant need to see itself in a positive light*. Make no doubt: the self can be our greatest resource, but it can also be our darkest enemy. On the one hand, the fundamentally human capacities for self-awareness, self-reflection, and self-control are essential for reaching our goals. On the other hand, the self will do anything to disavow itself of responsibility for any negative outcome it may have played a role.[30]

Furthermore,

> there seems to be this growing belief that the goal is always to win. Not have a dialectical, well-intentioned, mutual search for overarching principles and productive ways forward that will improve humanity—but to just win and destroy.[31]

By contrast,

> a quiet ego is an indication of a healthy self-esteem, one that acknowledges one's own limitations, doesn't need to constantly resort to defensiveness whenever the ego is threatened, and yet has a firm sense of self-worth and competence.[32]

The challenge Kaufman puts before us can be seen as an expression of the humility and love to which we are called as Christ followers. Scripture is clear in pointing out our temptations to pride, selfishness, and tribalism (see 1 Corinthians). Furthermore, we are called to humility in imitation of Christ. "Do nothing out of selfish ambition or vain conceit, but in humility consider others better than yourselves" (Phil. 2:3).[33] The second greatest command to love our neighbor as ourselves requires putting ourselves in another's place (Luke 10:25–37). These and other passages leave little room for taking pride in our presumed correctness, attacking those who disagree with us, or refusing to consider that we may be in error. Love rejoices in the truth even when it means we have been wrong.

Striving for a "quiet ego" will enable us to begin the process of overcoming all of the barriers discussed above. It involves self-reflection, and the ability to set aside our defensiveness and seek to understand, and value, the perspectives of others. In the process, we can grow in our empathy and compassion for each other, and seek the other's good and not just our own.[34] A quiet ego also makes it possible for us to challenge our own confirmation bias. We can be self-critical and skeptical of arguments that would seem to validate our own positions and beliefs. We must always remember that truth is independent of what we believe to be true. The more our personal identities are tied up with particular truth claims, the harder it is to be open to correction and change. We must be willing to pursue truth even it it "hurts."

Summary

I have briefly laid out above what I see as some of the main causes for our divisive and polarized society, and the consequence of an inability to find common ground in the pursuit of truth. Below is a summary list of useful perspectives and actions that can begin to heal those divisions and enable us to pursue truth together.

1. There is an objective physical and spiritual reality (an objective truth) that is accessible to us, but independent of us.
2. Our knowledge of that reality will always be incomplete and subject to error.
3. The consensus conclusions of trained expert communities provide stability and help to guard against error. Alternatives to the consensus positions must prove themselves by providing persuasive evidence.
4. Our understanding of truth is deeply influenced by our history and cultural context.
5. We must break out of our echo chambers and seek engagement across disciplinary and cultural divides.
6. Confirmation bias is a powerful human tendency and must be consciously countered by humility and a willingness to change our views.
7. Above all, we need to "quiet our egos."

Notes

[1]For an extended discussion of the assumptions that underlie scientific inquiry, see Keith B. Miller, "Doubt and Faith in Science and Religion," *Perspectives on Science and Christian Faith* 70, no. 2 (2018): 90–100, https://www.asa3.org/ASA/PSCF/2018/PSCF6-18Miller.pdf.

[2]For a clear and thorough argument for realism, see Hugh G. Gauch Jr., *Scientific Method in Brief* (New York: Cambridge University Press, 2012).

[3]Ibid., 83.

[4]Ibid., 29.

[5]See the following article for a more-detailed discussion of these and other misunderstandings of the nature of science: Keith B. Miller, "The Nature of Science and the Public Debate over Anthropogenic Global Warming," *Perspectives on Science and Christian Faith* 64, no. 4 (2012): 220–29, https://www.asa3.org/ASA/PSCF/2012/PSCF12-12Miller.pdf.

[6]Keith B. Miller, "Countering Public Misconceptions about the Nature of Evolutionary Science," *Georgia Journal of Science* 63 (2005): 175–89, https://digitalcommons.gaacademy.org/gjs/vol63/iss2/8/.

[7]For a thorough discussion of this limitation in the methodology of science, see Keith B. Miller, "The Misguided Attack on Methodological Naturalism," in *For the Rock Record: Geologists on Intelligent Design,* ed. Jill S. Schneiderman and Warren D. Allmon (Berkeley, CA: University of California Press, 2009), 117–40.

[8]Os Guinness, *In Two Minds: The Dilemma of Doubt and How to Resolve It* (Downers Grove, IL: InterVarsity Press, 1972), 16.

[9]Azhar Hussain et al., "The Anti-vaccination Movement: A Regression in Modern Medicine," *Cureus* 10, no. 7 (2018): e2919, https://doi.org/10.7759%2Fcureus.2919.

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[12]William Badke, "Evidence and the Search for Truth," *Online* 44 (July 2020): 36–38, https://www.researchgate.net/publication/350740099_Evidence_and_the_Search_for_Truth.

[13]Ibid.

[14]Steven Novella, "Outrage, Bias, and the Instability of Truth," NEUROLOGICA Blog, September 23, 2019, https://theness.com/neurologicablog/index.php/outrage-bias-and-the-instability-of-truth/.

[15]Ibid.

[16]Nicholas Rescher, *The Limits of Science*, rev. ed. (Pittsburgh, PA: University of Pittsburgh Press, 1999), 38.

[17]Ibid., 37.

[18]David N. Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago, IL: University of Chicago Press, 2003), 180.

[19]Allison L. Skinner-Dorkenoo et al., "A Systemic Approach to the Psychology of Racial Bias within Individuals and Society," *Nature Reviews Psychology* 2 (July 2023): 395, https://doi.org/10.1038%2Fs44159-023-00190-z.

[20]Ibid.

[21]Diana Lewis, Lewis Williams, and Rhys Jones, "A Radical Revision of the Public Response to Environmental Crisis in a Warming World: Contributions of Indigenous Knowledges and Indigenous Feminist Perspectives," *Canadian Journal of Public Health* 111, no. 6 (2020): 898, https://doi.org/10.17269/s41997-020-00388-1.

[22]Ibid., 899.

[23]Melanie Zurba and Anastasia Papadopoulos, "Indigenous Participation and the Incorporation of Indigenous Knowledge and Perspectives in Global Environmental Governance Forums: A Systematic Review," *Environmental Management* 72 (2023): 84–99, https://doi.org/10.1007/s00267-021-01566-8.

[24]Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (Minneapolis, MN: Milkweed Editions, 2013), 42.

[25]Ibid., 160.

[26]Amanda Black and Jason M. Tylianakis, "Teach Indigenous Knowledge alongside Science," *Science* 383, no. 6683 (2024): 592–94, https://www.science.org/doi/10.1126/science.adi9606.

[27]Jane Goodall and Phillip Berman, *Reason for Hope: A Spiritual Journey* (New York: Warner Books, 1999), 77.

[28]Esau McCaulley, *Reading While Black: African American Biblical Interpretation as an Exercise in Hope* (Downers Grove, IL: InterVarsity Press, 2020), 22.

[29]Drew G. I. Hart, *Trouble I've Seen: Changing the Way the Church Views Racism* (Harrisonburg, VA: Herald Press, 2016).

[30]Scott Barry Kaufman, "The Pressing Need for Everyone to Quiet Their Egos," *Scientific American, Beautiful Minds Blog*, May 21, 2018, https://blogs.scientificamerican.com/beautiful-minds/the-pressing-need-for-everyone-to-quiet-their-egos/.

[31]Ibid.

[32]Ibid.

[33]Scripture passage taken from the New International Version of the Holy Bible.

[34]See Heidi A. Wayment and Jack J. Bauer, eds., *Transcending Self-Interest: Psychological Explorations of the Quiet Ego* (Washington, DC: American Psychological Association, 2008).