"Justly and Without Bias": Consultation as a Technique for Mitigating Cognitive Biases

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Abstract

This paper investigates the possibility that one purpose of consultation is the mitigation of cognitive biases in individual participants and in the group as a whole. After exploring the nature of cognitive biases through the lens of evolutionary psychology, the paper surveys existing research on effective methods of "debiasing" individuals. This research suggests that the most effective environment for mitigating bias is a deliberative group, in which individual participants may be asked to justify their reasoning in a social environment of diverse perspectives. Bias mitigation diminishes over time, requiring repeated exposure to the debiasing environment. This model for debiasing strongly resonates with Bahá'í consultation, a conclusion that can enrich Assemblies' and other consulting groups' perspectives on, and expectations of, consultation.

Résumé

Dans le présent article, l'auteur examine la possibilité que l'un des objectifs de la consultation soit l'atténuation des biais cognitifs chez chacun des participants et dans le groupe tout entier. Après avoir exploré la nature des biais cognitifs à la lumière de la psychologie évolutionniste, l'auteur passe en revue les recherches actuelles concernant les méthodes de « débiaisement » des individus. Ces recherches semblent indiquer que l'environnement le plus efficace pour atténuer les biais sont les groupes de délibération au sein desquels les participants peuvent être invités à justifier leur raisonnement dans un environnement social réunissant une diversité de points de vue. L'atténuation des biais diminue avec le temps, ce qui nécessite une exposition répétée à ce type d'environnement. Ce modèle de « débiaisement » s'apparente fortement à la consultation bahá'íe, constat qui peut enrichir les perspectives et les attentes, en matière de consultation, des assemblées et autres groupes qui ont recours à la consultation.

Resumen

Este artículo investiga la posibilidad de que un propósito de la consulta es la mitigación de sesgos cognitivos en individuos participantes, y en el grupo como un todo. Después de explorar la naturaleza de sesgos cognitivos por medio de la óptica de la psicología evolucionaría, el artículo sondea la investigación existente sobre los métodos efectivos de reducir sesgos en los individuos. Esta investigación sugiere que el más efectivo ambiente para mitigar el sesgo es un grupo deliberativo en el cual a los individuos participantes se les puede pedir a que justifiquen su razonamiento en un ambiente social de diversas perspectivas. La mitigación del sesgo se disminuye a lo largo del tiempo requiriendo una repetida presencia del ambiente de disminución de sesgos. Este modelo para la disminución del sesgo resuena fuertemente con la consulta Bahá'í, una conclusión que puede enriquecer la perspectiva y la expectativa que tengan de la consulta las Asambleas y otros grupos consultivos.

What do the minds of a prehistoric hunter-gatherer and a modern urbanite have in common? It has become a common trope that they share a fundamental structure, shaped by evolutionary forces to be adaptive for the hunter-gatherer, yet potentially maladaptive to modern life in many ways. Where the hunter-gatherer was kept alive by a propensity to suspect that every rustle in the grass was evidence of a lurking leopard, for example, this same feature of cognition, carried forward to the modern day, may contribute to superstition, anxiety disorders, and other issues. Our environment has changed with extraordinary rapidity in evolutionary terms, but our brains have not kept pace. As a result, the human mind, for all of its accomplishments in reshaping the planet through science, technology, and social development, remains prone to errors in reasoning. These "cognitive biases"[1] are numerous and ubiquitous, experienced in some form and to some degree by all human beings.

A Bahá'í perspective, which embraces the harmony of science and religion, would agree with the above assessment to a point. A Bahá'í would presumably defer to the scientific understanding that the human brain has been shaped by millions of years of evolutionary pressures. Yet this is not the entire picture. A Bahá'í perspective would also hold that the mind "is the power of the human spirit. The spirit is as the lamp, and the mind as the light that shines from it" ('Abdu'l-Bahá, *Some Answered Questions* 55:6). The mind's inextricable relationship to the human spirit is suggested by the fact that "[t]he human spirit, which distinguishes man from the animal, is the rational soul, and these two terms—the human spirit and the rational soul—designated one and the same thing" (55:5). Our rationality—our power to reason—is thus not (or not solely) a byproduct of blind evolutionary forces, but an inherent attribute of the human spirit, which is in turn a fundamental aspect of reality.[2]

Thus, our *embodied expression* of the human mind is determined by the relationship between (at least) two forces: the mind itself, as an essentially spiritual emanation of the human spirit, and the evolutionarily-shaped operations of the brain, with which the mind is "connected" (*Some Answered Questions* 67:6).

How, then, can we act within the world as spiritual beings when the spiritual dimension of our human lives—our ability to reason—is continuously beleaguered by biases, originating in the way our brains have been shaped by evolution, which can never be fully eliminated? And are these two "readings" of the mind in irresoluble

1 Unless otherwise indicated, "bias" in this paper is used as a shorthand for cognitive biases generally.

2 For a scholarly discussion of the primacy of the spirit in the Bahá'í conception of the human mind, see Filson, as well as Penn for the specific context of mental health. See also Kluge for the Bahá'í concept of human nature more generally.

tension, or is there a way of viewing the evolutionarily-derived condition of the brain, with all its apparent faults, as a coherent part of the Creator's intent to manifest in the physical world creatures capable of expressing "the gift of understanding" (Bahá'u'lláh, *Gleanings* 95:1)?

I argue in this paper that the Bahá'í concept of consultation provides an answer to both questions. Certainly, all participants in consultation should fully expect themselves—and one another—to bring their unconscious biases into the discussion. Yet the Bahá'í writings claim that "[t]he light of truth shineth from the faces of those who engage in consultation" (*Consultation* no. 14) and that "[t]he maturity of the gift of understanding is made manifest through consultation" (no. 3). The scientific study of human cognition provides us with one way to understand these claims. Specifically, the emerging body of research on cognitive biases reveals conditions under which their effects on our thinking may be mitigated, and individuals successfully "debiased" to a measurable degree. Reviewing the principles and practices governing consultation in light of this research reveals a fascinating possibility: Bahá'í consultation may serve as an interactive and interpersonal debiasing technique for both individual participants and a consulting group as a whole. The Bahá'í writings are not blind to the human tendency to cognitive bias; indeed, 'Abdu'l-Bahá's admonition that "[i]n this day, man must investigate reality impartially and without prejudice in order to reach the true knowledge and conclusions" implicitly acknowledges that partiality and prejudice are ever-present dangers in the investigation of truth (*Promulgation* 32:4).[3] By articulating the approach of consultation, those same writings, I argue, give us a powerful means to overcome the problem of cognitive bias.

In this paper, I review the phenomenon of cognitive bias and the psychological mechanisms that give rise to it, exploring these in light of the Bahá'í writings on human reason and epistemic authority. I then distill the results of cognitive experiments on debiasing, suggesting three major features of an intervention that can mitigate the effects of individual's biases: interaction with feedback, decision justification, and a social environment conducive to debiasing, the last of which includes qualities such as diversity, compassion, suspension of personal judgement, and frequent repeatability. Next, I outline the distinguishing features of Bahá'í consultation. Finally, I argue for the resonance of Bahá'í consultation with the findings of the literature on debiasing. The intent is not to suggest to Bahá'ís that consultation's validity can be measured by its conformity to

3 Similarly, His counsel to His fellow Persian citizens to "consider . . . justly and without bias" how modernization would help rather than hinder the progress of their nation—the inspiration for this paper's title—can be read as an assessment that the discourse on this question at the time was deficient in justice and impaired by bias ('Abdu'l-Bahá, *Secret* 20).

current scientific findings: while any such conformity may be of interest to a broader audience, Bahá'ís will generally consult out of faith in the method's efficacy, born first from faith in the Revelation of Bahá'u'lláh, and second from experience. However, I hope that insight into the correlations between consultation and the scientific literature may enrich the approach of any participant in a consultation—Bahá'í or not—to this "luminary" and "lamp of guidance" (*Consultation* no. 1).

As a final introductory point, I will give my tentative answer to the second question posed earlier. That question can be rephrased, in a nutshell, as follows: why, from a *spiritual* perspective, do we have (evolutionarily-derived) cognitive biases? The answer is tentative because it is, necessarily, speculative—and as such, it may be most useful as a possibility to bear in mind while reading on.

While many scientists aim to describe both rationality and cognitive bias using purely materialistic models, their placement within the spiritual worldview of the Bahá'í Faith can lead us to a deeply non-materialistic conclusion: that processes for the progressive expression of the human spirit, as defined by the Bahá'í writings, appear to be embedded in the very fabric of physical existence itself. Examined through the lens of a spirituality that accepts an ongoing Progressive Revelation—and a concomitant progressive development of humanity's collective life—it would appear that the originating event of physical reality encoded the necessity of consultation into the very organization of matter and energy that would eventually result in the formation of human life. The selection pressures that gave rise to rational beings on Earth would also create cognitive bias as a byproduct, which would therefore necessitate something like consultation—as revealed in the Bahá'í writings—as a remedy. Therefore, consultation as a (divinely revealed, in the Bahá'í view) decision-making methodology appears to serve the negentropic[4] role of debiasing communities at all scales to avoid the encroachment of social disintegration caused by the cognitive biases endemic to individual cognition. Reality, in short, appears to be constructed so that human beings will always be in need of each other to more accurately understand the world around them and to produce and maintain an ever-advancing civilization. And simultaneously, as social organization becomes more complex, they require the spirituality emerging from the increasingly sophisticated and harmonious social interactions generated by successive Divine Revelations.[5] Far from leading us to lose faith in the potential of human reason, then, our growing awareness of our own cognitive biases may help us see that human reason reaches its potential when we reason together—that "[t]he

4 Antonym of "entropic": a change in a system from a state of disorder to one of order.

5 For more on spirituality as a pragmatic and emergent phenomenon, see Sarracino.

maturity of the gift of understanding is made manifest through consultation" (*Consultation* no. 3).

The Making of a Bias

If one function of consultation is to potentially mitigate cognitive bias, as this paper will argue, then it will first be helpful to consider in more detail the nature of cognition itself, and its epistemic limitations—both from the point of view of the Bahá'í writings, and from that of science.

The Bahá'í writings maintain that the human mind can apprehend reality to a meaningful degree. 'Abdu'l-Bahá frequently praises the use of reason and rationality, citing the rational soul as the single, nonmaterial phenomenon that "distinguishes man from the animal" (*Some Answered Questions* 55:5), and that possesses "[t]he foremost degree of comprehension in the world of nature" (58:3). Through its power, the human being "can discover the realities of things, comprehend their properties, and penetrate the mysteries of existence" (58:3). Yet the writings also delineate the boundaries of human epistemic capacity. 'Abdu'l-Bahá states that "the criterion of the senses is not reliable" (*Promulgation* 3:2), citing instances of illusions stemming from reflections and mirages as proof of the fallibility of sense perception, while "reason . . . is likewise unreliable and not to be depended upon," as shown by the disagreements between rational thinkers on identical subjects and the evolution of knowledge over time (9:3). Reason alone—for all of its repeatedly proven investigative and practical power—is not infallible.[6]

The Bahá'í position is one of local skepticism: while humans can claim real knowledge about certain things—whether physical or divine—the extent of human ability to attain such knowledge is constrained by both the sensory organs and cognitive bias. Therefore, human epistemic capacity is intrinsically incomplete by nature; we can always know more, but we can never know perfectly or completely.

The scientific research into cognitive bias provides insight into the nature and evolutionary origin of the intrinsic limitations on individual epistemic capacity affirmed by the Bahá'í writings. There are many varieties of cognitive bias, some more widely recognized than others, but all share the quality of being a failure of rational decision-making or problem-solving arising from cognitive "heuristics": "simple procedure[s] that help find adequate, though often imperfect, answers to difficult questions" (Kahneman 98). Perhaps the most cited example is the *confirmation bias*, the tendency of people to search for evidence that validates their preconceived notions and decisions and to ignore or avoid, often

6 Simultaneously, while the Bahá'í writings affirm that the human mind may occasionally be inspired through flashes of genuine insight, intuition is no more reliable a source of knowledge than sense perception or reason (see for instance Shoghi Effendi, *Prayer and Devotional Life* no. 99).

unconsciously, evidence against those notions (Mercier and Sperber 212–13). But other examples abound. The *representative heuristic*, which may well be the primary source of many social prejudices, causes us to view a single specimen of a perceived category as representative of that entire category (Tversky and Kahneman 1124). The *anchoring bias* causes us to infer a value based on a reference point that is not necessarily indicative of that value (for example, guessing the number of candies in a jar based on the size of a pile of candy wrappers placed nearby) (1128). The *availability heuristic* is the tendency to assess situations or predict outcomes based on whatever similar—but not necessarily predictive—instances can be readily recalled (Kahneman 7–8). The tendency of non-experts to overestimate their competence at a task is known as the *Dunning-Kruger effect*, named after the cognitive scientists who first put the phenomenon to experiment (Tversky and Kahneman 1121, Kruger and Dunning 1131). The *conjunction fallacy*, the *gambler's fallacy*, *base rate neglect*, *sample size neglect*, *perception of randomness* (Barton et al. 68)—their forms vary, but each in some way impedes the human mind's ability to fully exercise its ability to reason and arrive at decisions or understandings that accurately reflect reality.

As suggested above, many biases may have their roots in psychological adaptations evolved to facilitate human survival during the early days of our species, especially in situations necessitating rapid response based on a dearth—or overload—of sensory data (Shultz 20). From the perspective of evolutionary science, human cognition can be modeled as evolving merely to generate a functionally accurate representation of the surrounding environment, and to make predictions accurate enough to keep the individual alive long enough to reproduce; there is no evolutionary drive to make cognition more than "good enough," and so it has not evolved as a mechanism for absolute knowledge (Mercier and Sperber 209–10).

This model helps explain why human cognition is prone to errors. Cognitive biases in particular can be understood in terms of the dual-system model of reasoning widely accepted by cognitive scientists. What we generally think of as "rational thought" is the province of System 2, characterized as slow, effortful, logically analytical, and mostly conscious. Heuristics, conversely, originate in System 1, characterized as rapid, automatic, emotionally or instinctively-based, and mostly subconscious (Kahneman 20–21). System 1 heuristics are evolutionarily adaptive: as mental shortcuts, they lighten the cognitive load (brainpower and concomitant psychological stress) demanded by decision-making in a manner which is meant to reach the same conclusion from complex information (Tversky and Kahneman 1124). Oftentimes, they reach the same conclusion from complex information that it would take System 2 far more time and resources to arrive at. However,

in many cases these heuristics or "intuitions" can lead to systematically inaccurate conclusions and faulty decisions, which slow, cautious, and deliberate analysis of a situation would avoid.

According to this model, while cognitive heuristics evolved to permit us to act in critical situations without being overwhelmed and paralyzed by our own analytical ability, they can frequently become maladaptive in the modern environment where basic survival is often no longer a constant concern. For example, one model of *negativity bias* commonplace in evolutionary psychology characterizes it as having served our ancestors well: those singular individuals most likely to survive were those who learned from experience, and those who learned from experience were those on whom physically or emotionally distressing events made the most impression. It is much more important to remember which berries can cause gruesome death than which ones are harmless; thus, human beings evolved as a species from selected individuals to retain negative information more readily than positive information. However, in a relatively safe modern environment this tendency can instead cause undue psychological stress and inspire pessimism, as we recall tragic events more readily and conclude the world to be worse overall than it actually is (Soroka et al. 18889).[7] But our cognitive biases do not merely have negative consequences for our own inner lives—our moods and our ability to accurately read reality. To cite but one example, cognitive bias in triage assessments is believed to contribute to around 30,000 preventable hospital deaths per year in the United States alone (Mohan et al. 9207).

Whether they serve us well or not, these cognitive biases seem to be baked into our cognition: we all have them,[8] and we cannot fully excise them. The neurochemical pathways of bias seem to be embedded in our physical bodies and brains. Confirmation bias, to cite but one example, may be related to the effects of the neurotransmitter oxytocin in the brain: it has been found to inhibit changes in belief in test subjects if the subjects receive feedback which is worse than they anticipate, making them receptive

7 Another, topical example of this kind of maladaptation: some have argued that science denialism arises from a maladaptation of a tendency towards "epistemic individuality"—the overvaluation of one's own deductive reasoning in the absence of conscious understanding that group deliberation is frequently more accurate than individual reflection (Levy 319–20).

8 For example, tests on "inattentional blindness"—a phenomenon where an individual overlooks crucial information while performing a task demonstrate that all persons are susceptible to biases, irrespective of age, sex, gender, culture, attention span, and even scores on several types of intelligence tests. In a famous example of such a test, diverse test subjects tasked with counting basketball passes failed to notice someone in a gorilla costume walking past (Chabris and Simons 31–3).

only to feedback that matches or exceeds their expectations (Ma et al. 9259). Neurochemically speaking, it seems that humans do not enjoy being wrong.

If cognitive bias is inherent and cannot be eliminated, then by what means, if any, can it be mitigated?

The research literature on ways to mitigate bias mostly concentrates on individual reasoning. The suggested techniques[9] that emerge from this research provide ways for individuals to evaluate their own reasoning; yet there is every reason to believe that individuals will be as biased in their self-evaluations as in the original reasoning they seek to evaluate. How can this possibility be avoided?

Mitigating Bias

The research on mitigating bias does provide insights into this question, by highlighting what conditions—including opportunities for interaction and feedback, being invited to justify one's reasoning, and the right kind of diverse social environment—can support individuals in mitigating their own bias.

Playing against Bias: Interaction and Feedback

There is experimental evidence that interactive experiences that engage individuals in actively considering their own biases are more effective at mitigating those biases than is mere exposure to information about bias. In one study, for example, an interactive "serious game"[10] called MACBETH (Mitigating Analyst Cognitive Bias by Eliminating Task Heuristics) was tested as a means of debiasing intelligence analysts working for the United States government. In MACBETH, the player assumes the role of an intelligence analyst tasked with averting a major terrorist threat by gathering, sorting, and scrutinizing information obtained by international intelligence assets (MACBETH 8–10). The game is designed to force players to confront two targeted biases: confirmation bias, and *fundamental attribution error* (the tendency to attribute others' actions to something innate about them while explaining—and justifying—our own actions based on circumstantial factors) (Dunbar et al. 87). The stakes are high: if the player cannot overcome the unconscious biases that interfere with their search for the truth, then an ambitious terrorist attack on U.S. soil will succeed.

MACBETH proved quantitively more effective in mitigating bias in test

9 These include scrutinizing sample sizes to account for extreme statistical results (Kahneman 118), questioning numbers chosen as anchors (126–27), controlling the fear caused by "availability cascades" (143–44), accounting for random chance in successes or failures by "regressing to the mean" to avoid false causality (178–80), referencing actual statistical base rates to derive accurate results from limited information instead of making educated guesses (190), and so on.

10 A game (typically a video game) employed for pedagogical purposes by institutions or industries.

subjects than an instructional video designed to raise awareness about the targeted biases. The more the game was played, the greater its effectiveness. Other studies have demonstrated similar successes, and shown that the effect of interactive games on mitigating player biases is sustained over time (Clegg, McKernan et al. 1559, 1565–66; Barton et al. 63–64, 79–80, 81).[11]

These studies highlight two significant advantages of interactive games over non-interactive information in mitigating bias. First, players receive real-time, unambiguous feedback about the in-game consequences of their biases without suffering real-world consequences (Mohan et al. 9207; MACBETH 9). Physiological studies have shown that receiving feedback can activate the reward centers of the brain, providing motivation to continue with a task, however challenging or daunting (Gordon 217–18). Second, video games offer the advantage of replayability, which can enhance this reward effect by motivating players to return to the debiasing game environment, which they would be less likely to do when presented with a video lecture (Clegg, Kenski et al. 11). These features, which induce players to continue engaging with the debiasing content for longer periods of time and more often, may help explain the long-term impact of these games on bias mitigation. This "inoculative" effect is not typically seen with non-interactive materials.[12] These experimental conclusions strongly suggest that successful debiasing necessitates a strong interactive component, including immediate feedback and the ability to reapply debiasing freely and repeatedly to protect against the continual encroachment of bias.

Exposure of Bias through Explanation

Research also suggests that asking individuals to explain their positions can effectively reveal cognitive biases, and both motivate and support the individual to overcome them. As noted above, people's tendency to be more confident in their suppositions and assumptions than warranted can itself be thought of as a cognitive bias—the Dunning-Kruger effect (Chabris and Simons 120–22). This overconfidence can in turn rest on other cognitive biases, which inquiry can help to expose. One study tested the effect of a simple intervention on fundamental attribution error. Participants were asked to read essays on affirmative action policies, and then to make a judgement about the author (irrespective of their own

11 Numerous other studies have shown several styles and types of games to be quantitively more effective than control conditions targeting several bias types (Clegg, Kenski et al. 3–4, 11; Mohan et al. 9205, 9207).

12 For example, in one study "fake news" warnings were found to make test subjects moderately less likely to regard a particular fake article as true, but did not inoculate against motivated partisan thinking as hypothesized; the effect dwindled quickly over time (Grady et al. 12).

stance on the issue). Both the experimental and control groups were told that they would be asked to justify their impressions of the author, but the experimental group was was informed of this accountability *before* being given the essay and background information about the circumstances of the essay's author, while a control group was informed only *after* being exposed to the background information. Participants in the experimental group were less likely to attribute dispositional qualities to the essay author than to consider circumstantial details in judging the author's true position: i.e. they were less prone to fundamental attribution error when told in advance that they would have to justify their conclusions about the author's motivations. Thie findings suggested that this form of accountability motivated participants to think in terms of System 2 processes instead of relying on intuition, which would have been heavily influenced by their own prejudices (Tetlock 232–33).

Research suggests that when people have to explain their positions, it may activate slower, more systematic System 2 cognitive processes (Isler et al. 929, 933). These results are particularly significant in our era of increasing polarization. For example, a study on the illusion of explanatory depth (the tendency to overestimate one's knowledge and understanding about a particular topic) showed that test subjects were less likely to donate money to an advocacy group with which they shared partisan ideology when asked to explicitly justify their reasons for making their decision (Fernbach et al. 944).[13] These outcomes suggest a possible, surprisingly straightforward debiasing technique: asking people to justify their judgements and positions in detail. Being explicit and candid about the extent of one's own knowledge forces a person to analyze their own thinking more carefully, using complex, time-consuming, but more accurate System 2 processes, rather than quickly thinking through an issue and acting on "gut feeling."

The Social Environment

Social Reasoning and Background Assumptions

Interaction, feedback, and decision justification thus all seem to be elements of an effective bias mitigation technique; and while these might be provided by a computer game or automated prompt, they generally point to a role for social interaction in bias mitigation. This in turn raises the question of what—if any—precise parameters of a social environment are expected to contribute to the mitigation of bias. It is well documented that groups *tend* to

13 Notably, this effect occurred only when subjects were asked to give purely mechanistic explanations of how the policies the group advocated would work in practice, without reference to ideology. When instead asked to justify their ideology, subjects became more extreme in their partisanship and more likely to make only an intrapartisan donation (Fernbach et al. 944).

make better or more accurate decisions than the individuals within them would make alone—a phenomenon that has been referred to as the "assembly bonus effect" (Levy 316). Yet some types of groups have also been shown to tend to become more ideologically radical than individuals, as groups of likeminded people sharing the same assumptions and operating under the same biases can stifle dissenting or cautionary voices under the threat of exclusion or shaming (317). Understanding the qualities of the social environment that contribute to these divergent outcomes is our next goal.

Although the evolutionary origin of human reason is far from settled, some cognitive scientists argue that rational thinking in human beings may have been evolutionarily selected for specifically as a means of *collective deliberation*[14] and not as a decision-making or survival tool for the solitary human person (Mercier and Sperber 113). This line of thinking provides a plausible explanation for the very existence of cognitive bias as a byproduct of human reasoning: if human reasoning ability—overall—were naturally selected for as a means of *collective* cogitation, then *individual* reasoning is a mere byproduct of this collective neuropsychological phenomenon. It is, in a sense, an ersatz cognitive tool, a secondary function that admittedly proved useful in ensuring the short-term survival of the individual in the absence of fellow reasoners. Again, the individual's cognitive heuristics that give rise to cognitive bias can be very beneficial if one is alone in a survival situation where extensive cogitation—or prolonged deliberation—on urgent issues will likely hinder rather than enhance survival efforts. But if these same heuristics often prove maladaptive in our modern world of complex culture and high population density, a world where we must increasingly generate knowledge through experimentation and experience to address problems our ancestors could not have contemplated, this should be no surprise: it is not only that the world has changed, but that our reason was never *primarily* adapted for individual use.[15]

The possibility that reason evolved as a primarily collective, rather than individual, faculty seems to accord with the fascinating research on our relative capacities for self- and other-assessment. On the one hand, experiments have demonstrated that introspection—defined as self-assessment derived from cogitation on one's own knowledge and thoughts—is

14 More precisely, reason served the purposes of self-justification (usually *ex post facto*), which permitted individuals to contribute more substantially to collective deliberation for group problem solving (or truth-seeking). Reason thus addressed humanity's need for sophisticated cooperation, and reinforced humanity's prosocial propensities. Mercier and Sperber expand on this school of thought.

15 While this theory is compatible with materialism, it is also, as I have argued, compatible with physical reality being deliberately calibrated to foster human interaction.

inherently undependable as a source of real knowledge or a means of debiasing (Pronin 7, 8–12). Therefore, despite the evolutionary and civilizational success of human reason, reasoning in solitude appears to invite bias, leaving all self-justification as an incomplete source of accurate knowledge.[16]

On the other hand, it is also well-known that people tend to be better at evaluating others' reasoning than their own (Mercier and Sperber 221), and this may partially be due to variations in the relative susceptibility of different individuals to the same cognitive bias, whether in specific or general circumstances. We are all biased, but not necessarily in the same ways, at the same times, and in the same situations. Thus, reason in individuals might serve to contribute to an "interaction engine" powered by the cooperative exchange between individuals evaluating one another's arguments, evidence, and lines of reasoning for their positions (and reputationally motivated to do so with a minimum of nonrational hostility or reactionism) (224). This exchange divides the cognitive load between individuals, relieving each of them of the need to consider all relevant decisional or epistemic factors alone (a burden that can often cause individuals to resort to simplifying heuristics, such as confirmation bias) (257). Debiased group reasoning can thus result from the deliberations of a collection of diversely biased individuals (219–21). This is likely one reason why human beings also tend to place greater importance on solitary reasoning: this "epistemic individualism" was selected for evolutionarily because a personal connection to our own cogitation made us more capable of enhancing group deliberation by preventing us from thinking uniformly (Levy 319–20).

It is thus clear that one key factor in a social environment conducive to debiasing is diversity. Indeed, one component of the assembly bonus effect is that the decisional or epistemic superiority of the group is not conditional upon any single member having the best answer (Levy 316). A well-functioning deliberative group fosters a dialectic in the broadest sense of the term, a synthesis of ideas and insights resulting in a conclusion that contains elements of various initial contributing theses, with the shortcomings of each removed. This can occur, for instance, when rival scientific schools, possessing the same data but disagreeing on their interpretation, engage in a dialectic through which the background assumptions of their respective paradigms are exposed, and theory is reformulated according to the most viable and reasonable assumptions (Longino 223).[17] Thus, the greater the number

16 Indeed, one means of overcoming the introspection illusion is simply to actively seek out multiple opinions about oneself from others (Pronin 54).

17 Consider for example the conflict between two models of human evolution, one emphasizing hunting and male-driven innovation as driving human tool use, and the other emphasizing gathering and female-driven innovation. Each model hinges on background assumptions that are either androcentric or

of differing perspectives offered by a group to the pool of ideas, the more likely it is that participants' background assumptions will come to light and be subjected to a "transformative interrogation" (Levy 317, Longino 224).[18] There is, in turn, a direct relationship between the diversity of a group and its likelihood of reaching a better outcome, as greater degrees of diversity permit a wider interperspectival analysis of each individual position on an issue.[19] Individual human beings can draw only from their own experience and knowledge base, and the presence of unreliable introspection coupled with a high degree of cognitive load is a recipe for faulty decision-making. A diverse group can offer myriad experiences and knowledge bases to make everyone's unspoken assumptions and beliefs more apparent and open to scrutiny, and once assumptions are recognized they can be interperspectively evaluated for their truth or viability in the context of the group's subject of deliberation, and retained, changed, or discarded as need be (Longino 191). These benefits of interperspectival analysis can easily be translated from the exposure of background assumptions to the exposure—and removal—of biases: it may not be possible for any individual to operate without some bias, but diverse interperspectival analysis facilitates the recognition of biases. Thus, one facet of a proper debiasing environment is the presence of sufficiently diverse individual perspectives permitting the exposure and mitigation of bias. Creating such an environment can potentially maximize the assembly bonus effect while also preventing a consultive group from becoming ideological or extreme through lack of reflection on unaired background assumptions.

While further research on the debiasing potential of diversity within a

gynocentric. A dialogue between the two would provide for a means of mediating the flaws in both and synthesizing a more interactionist model with greater explanatory power (Longino 106–11). This debate was ongoing when Longino published.

18 For more on the concept of "transformative interrogation," see Neyman and Wenninger.

19 The inverse is equally true, as demonstrated by examples from the history of science. When the scientific community has excluded categories of people and their perspectives, it has proven incapable of recognizing and scrutinizing background assumptions, emerging from cultural milieu or motivated thinking. This has historically contributed to, for instance, medical diagnoses of drapetomania (a "disorder" driving slaves to flee captivity) and—more durably—of "female hysteria" (Tasca et al. 113–14, Opara et al. 225). Contrary to the popular perception of science as a "value-free" or "value-neutral" enterprise that divorces all assumptions or beliefs from experimental results, science is properly understood as a process by which objectivity is socially established (Longino 216). See Todd Smith, "Becoming Attuned to Reality: Presuppositions and the Power of Learning in Action" (55), and Friberg, "Revelation as Scientific in its Method: Science, Diversity, Consultation, and Learning in Action" (25).

group is called for, we can highlight some of the key dimensions of diversity that may be at play. One, already noted with respect to science, pertains to diversity in schools of thought and theoretical paradigms. Another, equally vital to science (see footnote 19) but relevant to other areas of discourse as well, consists of the kinds of identity markers that tend to shape life experience and perspective: race, gender, etc. While diversity along these lines appears to be crucial for a group's capacity to recognize bias (and, as I argue below and as highlighted by Whitney White Kazemipour, should be recognized as a key asset in Bahá'í consultation), we should not dismiss the inherent diversity of perspective between any two individuals. The human brain contains more than 86 billion neurons, capable of configuring into upwards of 100 trillion permutations; that is exponentially more than the number of stars in the Milky Way galaxy, and close to one thousand times the estimated number of human beings who have ever lived and died in the history of our species (DeWeerdt S6, Kaneda and Haub). This makes the brain the most diverse facet of human physiology, offering more permutations than any physical trait (skin color, hair color, facial structure, height, blood type, etc.) or genetic profile combined. As such, while there is as yet no definitive metric to quantify an individual's unique susceptibility to all of the different biases, there is every reason to conclude that different people will likely be more or less prone to different biases, and perhaps even in different circumstances.

Simultaneously, the importance of paying attention to certain markers of diversity in a debiasing space, rather than simply relying on the innate neurological diversity of any group, is inarguable. This can perhaps most easily be seen by considering a different dimension of diversity: culture. Different cultures have varied cognitive, epistemic, and behavioral effects on those within them. Cultural models of the family, for instance, that center on extended families living in close proximity (rather than nuclear families whose members diffuse geographically over time) may lead to organizational models that rely less on formal, impersonal legislature, and more on direct consensus and tradition, as in many traditional African and indigenous cultures (Leary 28, 30). Or consider cultural conceptions of time—as a scarce resource (European, American), an impersonal force that can be accommodated (Chinese), or as a quality of material existence that is to be harmonized with (African) (35–37). Cultures even provide different ways of knowing the world; where science has, over the past few centuries, come to occupy an increasingly central place in "Western" epistemology, many cultures around the world center narrative and storytelling as ways of knowing (Leary 37–38, Shahid 28). Another crucial element of any culture, influencing not only personal relationships but how information is processed in a person's mind, is the

extent to which it emphasizes (broadly speaking) atomistic individuality or communitarianism.[20]

Culture, in short, provides another type of cognitive diversity necessary for a robust interperspectival analysis. In a diverse environment, cultural assumptions and accompanying biases can be scrutinized, selected, or changed for the sake of a more accurate collective understanding, or more apt collective decision.

A final point about diversity: Depending on the nature of the matter under discussion, a diverse group may still need to pay attention to another kind of diversity—diversity of information sources. Just as in scholarship, where reliance on too few sources may impair perspective, lead to crucial information being missed, and make it less likely that any errors in a single source will be challenged, a group deliberation that relies on too limited or homogenous a base of information may be epistemically limited. A group may be large and diverse enough to potentially enable a rich, interperspectival analysis of an issue, yet if the vast majority of them received their information on the issue from the same source, then the group is, in reality, homogenous in a potentially important respect (Sullivan et al. 734–36). Fortunately, just as interperspectival analysis serves to expose background assumptions and biases, so it can and should be used to expose the degree to which a group is sufficiently heterogenous to avoid groupthink and polarization.

Other Environmental Considerations

Given that we all carry around (often unexamined) background assumptions, to achieve greater objectivity (Longino 216; see also Smith), and thus make good decisions, a group must enable diversity to flourish epistemically. This involves more than just bringing together a diverse group of people. What traits, both individual and collective, are most conducive to the free sharing of ideas in a diverse setting?

Indeed, while our hardwired epistemic individualism may, in theory, give us each a personal connection to our own understanding of the world that allows us to productively challenge the views of others, it also tends to make us defensive of our ideas,

20 Interestingly, however, research suggests that we do not simply regurgitate our culture's dominant stance in this respect. One cognitive study found that priming a test subject using language evoking either an individualist or collectivist mindset altered their memory and perception of a message, the messenger, and the messenger's intended recipient: collectivists tended to retain the message, irrespective of any physical or linguistic similarity shared with the messenger, by drawing greater connections between the three elements (messenger, message, recipient) than primed individualists (Kwon et al. 398). Other experiments have found similar results influencing behavior with similar priming parameters (Oyserman and Lee 329–30), suggesting that degrees of cultural influence can be modified simply through framing.

irrespective of their rational, empirical, or practical merit, to mistake evidence against our ideas as a personal affront, and to resist changing our ideas to suit reality out of a desire to safeguard our perceived self-worth. Epistemic individualism, in other words, can pose a formidable barrier to consensus (Levy 314). The answer is not for members of a group to unthinkingly defer to a majority without presenting their own views, of course, for this would negate the very epistemic promise of diversity. Instead, what is needed is for individuals to have the intellectual humility to recognize the limits of their own knowledge bases and perspectives and consider the possibility that they might be wrong.[21] Consider science: it cannot advance if individuals or groups remain silent about interpretations or theories that deviate from the majority paradigm, but nor is it strengthened when rival scientific communities proclaim their own internal consensuses, champion their own paradigms, standards of experimentation, data collection, and peer review, and "fight it out" with the mainstream scientific community as in a political parliament or congress, where the standard practice is to give no ground, and maintain that your view is entirely correct and the other side is entirely wrong. The goal of discourse, including disagreement, between scientists must be to reach the point where only a single model or theory most adequately explains a collection of phenomena, consistent with what is known in all other scientific fields; this model then holds until more data, and a more holistic model, can replace it in the future.[22]

How then can the right combination of forthrightness in presenting one's views, and humility in recognizing that they may be incorrect, be cultivated? It is ultimately the individuals in any group who will, in aggregate, create the environment in which a deliberation is to take place. Several studies

21 Conversely, studies have also shown that the personal quality of hubris, defined as an inordinate faith in one's own personal capability and self-image as being above social convention or formalities, can impair individuals' decision-making, by causing them to be less likely to learn from mistakes, more likely to ignore rules, and more susceptible to the Dunning-Kruger effect (McManus 171–73).

22 To illustrate the difference between presenting an alternative scientific paradigm in good faith, and inflexibly advancing a paradigm with the goal of "defeating" another, consider the Intelligent Design creationism movement, which demands public acceptance as science while discounting critical data favoring natural selection as a viable explanation for observed biological changes in the fossil record over deep time. Such discounting is not the same as exploring the unresolved mysteries of evolution, which are fully acknowledged by mainstream evolutionary biologists. As such, the ID movement has been rejected as science altogether, as it offers no scientifically viable alternative to natural selection as a paradigm. For more on the history, theology, and legal issues of the ID movement see Pennock (2000), Petto and Godfrey, eds. (2007), and Chapman (2007).

have suggested behaviors and attitudes that are most conducive to a debiased discussion. These indirect methods are especially salient in mitigating unconscious biases, as direct attempts to mitigate bias may not address their underlying psychology and may thus exacerbate them (Kahn et al. 132).

Some biases are recognized as originating from the self-regulatory system, the psychological mechanism that preserves an individual's self-perceived worth and integrity (Sherman and Cohen 120). When confronted with data hostile to one's preconceptions and beliefs, this system can respond with motivated thinking and defensiveness. These, alongside epistemic individualism and the introspection illusion, can also contribute to polarization and bias exacerbation. If these tendencies were unavoidable, they might undermine the theory that rationality primarily evolved for collective deliberation. However, while these tendencies can be interpreted as evolution-driven mechanisms for the preservation of the individual, not as assets to controlled and rational deliberation in-and-of-themselves, it turns out that the right kind of social process of reasoning together can mitigate them in individual reasoning. Research demonstrates that test subjects exposed to solid evidence that contradicts their own beliefs are less likely to be hostile to the information, or to suspect bias on part of the information provider, if they are first given an affirmation of their self-identity that is independent of their beliefs or memberships (121–22). Similarly, short-term inclusionary behavior has been found to be promoted through "perspective-taking" exercises in which subjects are asked to place themselves in the positions of others (Adida et al. 9522, 9524). (Notably, this positive change lasted for only about a week, and only behavioral, not attitudinal, change was demonstrated).

Studies have also found that people are less likely to fact-check statements to which they are exposed (e.g. "fake news") if they are in the presence of others (Jun et al. 5976); since affirmations of individual's inherent worth were absent in these cases, this may reinforce the importance of such affirmations. If people fear ridicule, in other words, they are less likely to adopt their share of a group's cognitive load. In addition to the role this points to for general affirmations of each person's worth, an environment in which members of a group accept each other's mistakes or exposed biases of members may also be important.

One can conclude from these studies that bias can mitigated more effectively as ideas are more freely shared, and that ideas are more freely shared if a diverse group humanizes one another by prioritizing their membership in the category of "humanity" above all secondary identities. In other words, the group that validates its members for simply being human, regardless of what beliefs or identities they bring to the group, creates the possibility of both open sharing and intellectual humility on the part of its members.

Finally, one last facet of debiasing must be considered: bias mitigation has been observed to be an inherently eroding phenomenon that diminishes over time (Gordon 228). This can occur when debiasing successes are misperceived by an individual as a successful inoculation against a bias, which can, in turn, strengthen the influence of that bias on their thinking (Kenyon 2536). Just as inclusionary behavior in the short term can be established through perspective-taking, *sustained* attitudinal changes and bias mitigation seem to require sustained, direct contact with diverse others, allowing a person's biases to become exposed and deeply analyzed (Gordon 228–30, Lilienfeld et al. 395).[23] In short, no means of debiasing can be effective as a single or solitary exercise but must be sustained and reapplied in a social setting to have any meaningful or longitudinal effect (a conclusion also reflected in the research on serious games, as discussed above).

Assessing the Debiasing Potential of Consultation

These studies and analyses have given us a model of what a strong debiasing technique must involve. It must: 1) be interactive and provide feedback, 2) seek explicit decisional justification when called for, and 3) provide a diverse group atmosphere that a) affirms the value of its constituents, b) permits them to view the world through one another's eyes (perspective-taking), c) forgives faults in reasoning and knowledge base, thereby making fact-checking "safe," d) exposes bias alongside background assumptions through interperspectival analysis, and e) is continuously practiced and reaffirmed.

We are now in a position to consider whether Bahá'í consultation meets the criteria of a strong debiasing technique. First, a brief description of consultation is in order.

Basics of Consultation

Consultation in the Bahá'í Faith refers to a form of group decision-making and truth-seeking with specific characteristics.[24] It is described as "the lamp of guidance that leadeth the way" (Bahá'u'lláh, *Tablets* 168); it "bestoweth understanding and transmuteth conjecture into certitude" and "is a shining light which, in a dark world, leadeth the way and guideth" (Bahá'u'lláh, qtd. in *Consultation* 1). 'Abdu'l-Bahá states that "consultation

23 This is especially salient in biases contributing to prejudice against other people. In addition to perspective taking, practices that can mitigate such prejudices include counter-stereotyping (finding examples that defy preconceived notions of people) and expanding one's identity to include *humanity*—that is, defusing one's tendency to tribalism through emphasizing a shared identity with the whole of human personhood (Gordon 228).

24 In this paper, comments and findings regarding consultation should be interpreted as applying to all instances of consultation at all scales, and not only to consultants in the Bahá'í Administrative Order.

must have for its object the investigation of truth" (*Promulgation* 31:2).

Other passages emphasize the distinctive characteristics of consultation. 'Abdu'l-Bahá specifies that "spiritual conference and not the mere voicing of personal views is intended," and contrasts this ideal with the reality of a session of the French senate in which members came to blows (*Promulgation* 31:1). He emphasizes that "[t]he first duty" of the members of a consultative body "is to effect their own unity and harmony, in order to obtain good results. If there be no unity . . . it is better that [the body] not exist" (qtd. in *Star* 114). Discussion of unity as a supreme principle is ubiquitous in the Bahá'í writings on consultation:

> If they agree upon a subject, even though it be wrong, it is better than to disagree and be in the right, for this difference will produce the demolition of the divine foundation. Though one of the parties may be in the right and they disagree that will be the cause of a thousand wrongs, but if they agree and both parties are in the wrong, as it is in unity the truth will be revealed and the wrong made right. ('Abdu'l-Bahá, qtd. in *Consultation* no. 12)[25]

This level of unity depends on members' efforts to bring certain attitudes and qualities to consultation. For instance, participants are expected to each "highly praise the other and each should regard himself as evanescent and as naught in the presence of others" ('Abdu'l-Bahá, qtd. in *Consultation* no. 15). This is a very high standard of intellectual humility and implies adopting a "spirit of learning" over a "spirit of teaching"; in other words, welcoming the possibility of having one's mind changed rather than intending to change other minds.

A distinguishing characteristic of consultation is its goal of achieving a consensus among its participants—whether in matters of decision-making or truth-finding—by opening minds to change through exposure to new ideas, evidence, and perspectives. However, if disagreement persists, a majority vote may be cast with the understanding that all members of the group will support the majority decision even if some of them disagree with it: "When the majority of an Assembly decides a matter the minority . . . should accept this" (*Consultation* no. 41). The justification for this principle is that maintaining unity is more important in the long run than asserting one's view, even if it is correct. Doing the latter can not only undermine the ongoing effectiveness of the group, but it can prevent united action behind a (wrong) decision that will reveal its error, and lead to eventual united recognition of the right course (*Consultation* nos. 12,

25 See Whitney White Kazemipour for an extensive discussion of the nature of unity as an ideal in Bahá'í consultation, and its relationship to the necessary "clash of differing opinions" necessary to bring forth the "spark of truth" (*Consultation* 9).

15). Thus, consultation extends beyond an egalitarian exchange between diverse equals and incorporates the spiritual principles of unity and harmony; it asks participants to adopt the intellectual humility to be open to change their minds, as well as humble acceptance of any majority vote in faith that any error will be corrected in time. The group's decision feeds back with engagement with reality, testing theory and bringing the group to reevaluate any decisions through further consultation and not through competition between dissenting voices.

Models of debate, discourse, and group decision-making widespread in modern settings—whether in the political realm or in interactions between individuals in quotidian situations—can contain piecemeal elements of Bahá'í consultation,[26] but many also feature adversarial elements in stark contrast to an objective of consensus. With no goal of consensus, decision-making and truth-finding become zero-sum games in which one position must concede to another, or else a compromise made in which no discussant involved fully achieves their goal. Groups adopting these methods, including families, can become estranged over time if individual members refuse to concede (whether out of stubbornness, pride, or genuine belief in the truth of their position) even at the cost of losing group cohesion.

26 For some examples of these forms of discourse, see Neyman and Wenninger.

Consultation to Debias

This, in brief, is Bahá'í consultation as it is presented—in the ideal—in the Bahá'í writings and guidance. Consultation is, of course, conducted by human beings, and its execution will therefore often fall short of the ideal. By striving to understand how consultation correlates with the science already reviewed, we may not only obtain a clearer picture of what consultation is supposed to be, but also a means to better achieve that ideal. Here, I aim to make that correlation more explicit, by reviewing each of the three debiasing elements that we extracted from the scientific research and juxtaposing it with relevant authoritative writings and guidance on consultation.

1. *An interactive process providing feedback*

Being a means of deliberation, Bahá'í consultation is an inherently interactive enterprise, thereby fulfilling the first criterion for a strong debiasing procedure as validated by serious game studies. More precisely, consultation incorporates a specific approach to giving and receiving feedback.

> Before expressing his own views he should carefully consider the views already advanced by others. If he finds that a previously expressed opinion is more true and worthy, he should accept it immediately and not willfully hold to an opinion of his own. By this excellent method he endeavors to

> arrive at unity and truth. . . . He who expresses an opinion should not voice it as correct and right but set it forth as a contribution to the consensus of opinion, for the light of reality becomes apparent when two opinions coincide. (‘Abdu’l-Bahá, *Promulgation* 31:2)

These passages can be interpreted as a commentary on feedback. A participant in consultation cannot know how valid their own position is until it is compared with others with which they are unfamiliar, and a posture of intellectual humility demands that they be open to this feedback without becoming defensive and personally attached to their own ideas. Communication between consultants is regulated by the principle of harmony and the goal of group cohesion and truth, which removes a major impediment to any free exchange of feedback.

2. *Explaining one's views*

Once consultation begins, the guidance make clear that the first step in any consultation is that "every member expresseth with absolute freedom his own opinion and setteth forth his argument" (Shoghi Effendi, *Bahá'í Administration* 21–22). "[I]t is not only the right but the sacred obligation of every member to express freely and openly his views, without being afraid of displeasing or alienating any of his fellow-members" (Shoghi Effendi, qtd. in *Consultation* no. 32). This can easily be interpreted as an admonishment for all members of a consultative group to explain and justify their reasoning in the course of deliberation, and provide whatever evidence is relevant to the subject of discussion—the second criterion of a robust debiasing technique.[27] Although not framed in the guidance in these exact terms, this open expression provides an opportunity for biases to be exposed, as a thorough voicing of a participant's reasoning permits them to realize more fully where their thinking is biased and to correct themselves while engaged in deliberation with their peers. That participants are already admonished to "immediately" accept any previously expressed view they find "more true and worthy" prevents the deliberation from becoming polarized and devolving into a zero-sum competition with winners and losers instead of an attempt to reach consensus. In addition, the understanding of a consultative body from the outset is that all proffered thoughts are contributions to group deliberation, and as such no individual will retain credit for whatever collection of ideas are implemented, divorcing the position from the person holding it and removing a critical catalyst for biased or motivated thinking.

3. *Group diversity*

The science has also shown us that, in general, group deliberation tends to be quantifiably superior to individual cogitation and introspection, and the

27 Note that this may not be expressly necessitated in every consultation; in cases where no objection is raised or elaboration requested, explicit decisional justification may be considered redundant.

guidance on consultation fully bears this reality out. 'Abdu'l-Bahá states that "[t]he purpose of consultation is to show that the views of several individuals are assuredly preferable to one man, even as the power of a number of men is of course greater than the power of one man" (qtd. in *Consultation* no. 16). Further, on the subject of the mechanism of deliberation, 'Abdu'l-Bahá specifies that "[t]he shining spark of truth cometh forth only after the clash of differing opinions" (*Selections* 44), and that "[t]hrough the clash of personal opinions . . . the spark of truth is often ignited, and Divine guidance revealed" (Shoghi Effendi, qtd. in *Consultation* no. 33). This praise of heterogeneity, of diversity of opinions, and of general differences between people as necessary for consultation is fully congruous with the concept of interperspectival analysis and transformative interrogation, and suggests that consultation is capable of replicating some of the essential elements of the epistemic success of science in matters both complex and quotidian. Since, as described above, such a deliberate "clash" of opinions and positions can result in the exposure of background assumptions and cognitive biases, there is every reason to believe that this is one unstated goal of the Bahá'í model of consultation, especially given the ability of interperspecival analysis to permit groups to isolate and eliminate or alter their assumptions. Consultation's mechanism for harnessing diversity of opinions illuminates the claim that "the views of several individuals are assuredly preferable to one," which in turn suggests agreement with the cognitive scientific account of human reason as evolved toward group deliberation and problem-solving.

Beyond stressing the importance of diversity, the Bahá'í writings and guidance also encourage certain behaviors and attitudes in individual participants that foster a deliberative environment conducive to bias mitigation. 'Abdu'l-Bahá states, for instance, that "[t]he first condition [for consultation] is absolute love and harmony amongst the members of the assembly . . . wholly freed from estrangement . . . for they are the waves of one sea, the drops of one river, the stars of one heaven, the rays of one sun" (*Selections* 45). This principle of love and harmony protects each participant's freedom to express themselves "without being afraid of displeasing or alienating any of his fellow-members" (Shoghi Effendi, qtd. in *Consultation* no. 32), and is reflected in the admonition that "it is in no wise permissible for one to belittle the thought of another" ('Abdu'l-Bahá, *Selections* 45). This implies an atmosphere of acceptance, in which people are not judged for their positions but are accepted wholeheartedly by virtue of being fellow human beings, regardless of their beliefs of biases.[28]

28 This role of loving acceptance of others in consultation may illuminate the juxtaposition in Bahá'u'lláh's Writings of "consultation and compassion," which He specifically designates as the "two luminaires" of the "heaven of divine wisdom" (*Tablets* 168).

As such, this leaves ample room for informal perspective-taking in a consultation. An atmosphere of forgiveness may also be instrumental in promoting the willingness of consultants to fact-check one another—without, of course, "belittling" each other's views: "[s]hould any one oppose, he must on no account feel hurt for not until matters are fully discussed can the right way be revealed" ('Abdu'l-Bahá, qtd. in *Consultation* no. 9). If the unspoken agreement among participants is that there is to be no fear of "displeasing or alienating" each other, then there will be less fear of being wrong among peers and thus a freer exchange of ideas.

The writings and guidance on consultation also affirm the role of intellectual humility, and warn against hubris. Participants in consultation are to "proceed with the utmost devotion, courtesy, dignity, care and moderation to express their views" ('Abdu'l-Bahá, qtd. in *Consultation* no. 10). As noted above, they should "highly praise the other and each should regard himself as evanescent and as naught in the presence of others" ('Abdu'l-Bahá, qtd. in *Consultation* no. 15), and should furthermore remember that "[a] thousand people may hold to one view and be mistaken, whereas one sagacious person may be right" (*Promulgation* 31:2). They are reminded that "[n]ot infrequently, nay oftentimes, the most lowly, untutored, and inexperienced among the friends will . . . contribute a distinct and memorable share to a highly involved discussion" (*Consultation* no. 25). In the case of Spiritual Assemblies, the guidance even approves the involvement of outside experts who can contribute to the Assembly's deliberation as disinterested, non-voting parties (*Consultation* no. 27). Such a disinterested expert can help to broaden the consultation's knowledge base and strengthen its epistemic network without unduly influencing the outcome. In addition, the very fact that Bahá'ís are told that "[i]n all things it is necessary to consult" (Bahá'u'lláh, qtd. in *Consultation* no. 5), that "[m]an must consult on all matters, whether major or minor, so that he may become cognizant of what is good" ('Abdu'l-Bahá, qtd. in *Consultation* no. 14), and that "consultation is desirable and acceptable in all things and on all issues" (no. 16), suggests that we are being admonished to continuously debias, in our personal, professional, and administrative roles. As we have seen that debiasing is an eroding phenomenon, no amount of consultation will ensure that a participant emerges durably and permanently debiased. Instead, the participant must continuously re-expose themselves to this environment to maintain the greater awareness that consultation is expected to produce. All of these facets of the ideal social environment of consultation are congruous with the experimental results recorded above.[29] Thus,

29 It should be noted that as Bahá'ís believe the Bahá'u'lláh's teachings to originate from a Being of superior understanding who created humanity (God), it would therefore be expected that the knowledge of cognitive bias would be embedded in

when consultation is conducted in line with the admonitions in the Bahá'í writings and guidance, it will serve the purpose, amongst others, of mitigating the effect of bias on the individual participant and the consultative body.

Of course, there should be no expectation that every instance of consultation will successfully expose all participants' biases, and result in a decision that is perfectly reflective of truth. Indeed, the admonishment to unite behind all decisions, discussed above, clearly contemplates that decisions will sometimes be wrong. As discussed by Friberg in the previous issue of this journal, when consultation is integrated into a mode of learning in action, in which all consultative participants unite behind collective determinations—whether reached by consensus or majority vote—it contributes to a social process that can meaningfully be called scientific. From the perspective of consultation's debiasing potential, the iterative nature of this process is crucial. The critical search for background assumptions and biases cannot, practically speaking, be prolonged indefinitely in any given consultation, and as such a consultive group must establish a threshold by which this reflection ceases, and practical decisions made based on the information available (Longino 223), even if consensus has not yet been reached. Bahá'í consultation does not ask people to submit blindly to the dictates of a majority; rather it exhorts participants to embody humility and deference to the practical considerations of decision-making, in faith that errors will be corrected in time. And this, in my view, includes errors of bias. We have seen that the conditions for robust debiasing are potentially demanding; where sufficient diversity of the relevant kind is lacking, for instance, bias can persist even if all the other conditions for debiasing are present. And this can be the case in Bahá'í consultation, and in the Spiritual Assemblies that adopt it as a methodology. The continuity of community—the commitment to continue to strive for both loving harmony and "[c]onsultation, frank and unfettered"—both rests on faith that such biases will eventually be exposed and overcome, and makes this resolution possible (Shoghi Effendi, qtd. in *Consultation* no. 27). Should a consultative body perform consultation as the Bahá'í guidance presents it, then its constituents will also be open to new data gathered from whatever decision they enact, as well as to repeated consultation on the subject to strengthen their ability to execute their decisions. Because even a finalized decision remains open to revision in light of feedback with reality, in terms of observable successes, failures, and potential alternatives and enhancements, a continuity is observed which enables a faith in the corrective power of consultation. This is the experimental method applied beyond the laboratory, in which feedback from observations leads to new conclusions to

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the admonishments to consultation contained therein in anticipation of the intrinsic nature of bias in human reasoning.

broaden and deepen the pool of human knowledge, and a demonstration of one way in which the Bahá'í Faith is "scientific in its method" (Shoghi Effendi *Letter to the High Commissioner*).

Conclusion

The Bahá'í Faith accords the utmost importance to consultation as the means for discovering truth in a non-adversarial manner that unites and harmonizes human beings. I have argued that one essential goal—if not the primary purpose—of consultation is maximize its participants' epistemic strengths and minimize their inherent cognitive weaknesses. Specifically, consultation can remove barriers to truth by mitigating the effect of cognitive bias on the human psyche, and exposing biased thinking through the sharing of heterogenous perspectives. The description of consultation in the Bahá'í writings and guidance suggests a cooperative investigative scheme fully congruous with the latest findings in cognitive science and experimental psychology, demanding interaction and social epistemology as integral components to the truth-finding endeavor. Consultation necessitates interaction, feedback between its members, explicit explanation and justification by individuals, interperspectival analysis from as diverse a group as possible, a harmonious and united atmosphere based on a shared human identity, and continuous practice to continually re-establish bias mitigation.

The scientific research I have reviewed suggests ways in which we may enhance our understanding of the procedures prescribed in consultation. Bias is an inalienable quality of the human experience, selected for our basic survival and persisting inexorably in an era of ever-advancing civilization. For this day and age, consultation is the means to mitigate that ineliminable facet of our existence and give the whole of humanity—across cultures, faiths, and perspectives—greater and more participatory access to truth. Further research may expand this conclusion and build upon the possibility that human reason always evolved as a collective enterprise, intractably flawed without group deliberation and thus providing an impetus towards human unity and the spiritual strengths which follow from it.

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