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### Abstract

A principal assumption in the epistemology of disagreement is that we, as rational subjects, assess evidence neutrally in order to justify our beliefs. However, the existence of the phenomenon of Belief Polarization threatens the validity of this basis. Since its introduction into philosophical discussion in Thomas Kelly's paper titled, Disagreement, Dogmatism, and Belief Polarization, the phenomenon of Belief Polarization has been thoughtlessly overlooked. Given serious consideration, there seem to be widespread epistemological implications due to the existence of Belief Polarization. Specifically, Belief Polarization brings to light significant claims about the nature of justification and belief forming processes, specifically concerning evidence gathering. As this paper will argue, given awareness of Belief Polarization, rational subjects should be less confident in their justification of belief forming processes. In other words, rational subjects should not be fully confident in the objectively based truth-value of their beliefs.

# The Epistemological Significance and Implications of Belief Polarization

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## Abstract

A principal assumption in the epistemology of disagreement is that we, as rational subjects, assess evidence neutrally in order to justify our beliefs. However, the existence of the phenomenon of Belief Polarization threatens the validity of this basis. Since its introduction into philosophical discussion in Thomas Kelly's paper titled, *Disagreement, Dogmatism, and Belief Polarization*, the phenomenon of Belief Polarization has been thoughtlessly overlooked. Given serious consideration, there seem to be widespread epistemological implications due to the existence of Belief Polarization. Specifically, Belief Polarization brings to light significant claims about the nature of justification and belief forming processes, specifically concerning evidence gathering. As this paper will argue, given awareness of Belief Polarization, rational subjects should be less confident in their justification of belief forming processes. In other words, rational subjects should not be fully confident in the objectively based truth-value of their beliefs.

## 1. Introduction

A principal assumption in the epistemology of disagreement is that we, as rational subjects, assess evidence neutrally in order to justify our beliefs.<sup>1</sup> However, the existence of the phenomenon of Belief Polarization threatens the validity of this basis. Since its introduction into philosophical discussion in Thomas Kelly's paper titled, *Disagreement, Dogmatism, and Belief Polarization*, the phenomenon of Belief Polarization has been thoughtlessly overlooked. Given serious consideration, there

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<sup>1</sup> Although it is agreed that certain factors, like presentation and kind of evidence, may initially predicate our beliefs, there seems to be an understanding that these factors should not affect our over-all assessment of our evidence or deliberately bias our beliefs and evidence gathering processes. See White, R. (Forthcoming) "You just believe that because..." *Philosophical Perspectives*.

seem to be widespread epistemological implications due to the existence of Belief Polarization. Specifically, Belief Polarization brings to light significant claims about the nature of justification and belief forming processes, specifically concerning evidence gathering. As this paper will argue, given awareness of Belief Polarization, rational subjects should be less confident in their justification of belief forming processes. In other words, rational subjects should not be fully confident in the objectively based truth-value of their beliefs.

Belief Polarization is the phenomenon that explains the seemingly unnatural process whereby, given a mixed body of evidence, two equally rational subjects<sup>2</sup> tend to become increasingly divided towards their own prior beliefs. To illustrate Belief Polarization, Kelly, in his paper *Disagreement, Dogmatism, and Belief Polarization* presents a scenario in which two rational subjects are in disagreement over whether capital punishment is a deterrent to crime or not.<sup>3</sup> In the example, after becoming aware of each other's view, both subjects are presented with the same substantial body of evidence that is "of mixed character: some studies seem to suggest that capital punishment is a deterrent while other studies seem to suggest that it is not."<sup>4</sup> Now the question is posed, "what becomes of our initial disagreement once we are exposed to such evidence?"<sup>5</sup> It would seem natural that these two subjects would equally assess the evidence and possibly come to some sort of agreement or suspension of their prior beliefs, or at least, "one would expect that exposure to common evidence would not *increase* the extent of [their] disagreement."<sup>6</sup> However, these inclinations turn out to be false, as shown by experiments testing this phenomenon.<sup>7</sup> For, as Kelly describes:

Exposure to evidence of a mixed character does not typically narrow the gap between those who hold opposed views at the outset. Indeed... exposure to such evidence tends to make initial disagreements more pronounced... As our shared evidence increases, each of us tends to harden in his or her opinion, and the gulf between us widens. Our attitudes become increasingly polarized.

Thus, the phenomenon of Belief Polarization explains why, when given more evidence, disagreeing rational subjects tend to become more confident in their original beliefs<sup>8</sup>

<sup>2</sup> Gutting, Kelly, and others use the term 'rational peers', that is, for all intents and purposes, analogous to the use of 'equally rational' or 'rational subjects' in this paper. For more, see Kelly, T. (2005), "The Epistemic Significance of Disagreement," *Oxford Studies in Epistemology* Volume 1, J. Hawthorne and Tamar Gendler eds. Oxford: Oxford University Press, 3.

<sup>3</sup> Kelly, T. (2005), "Disagreement, Dogmatism, and Belief Polarization," Princeton University, page 1.

<sup>4</sup> Ibid. 1.

<sup>5</sup> Ibid. 1.

<sup>6</sup> Ibid. 2.

<sup>7</sup> Ibid. 2.

<sup>8</sup> 'Original beliefs' refers to beliefs that are held about ideas/theories prior to gaining evidence.

rather than coming closer to agreement. Furthermore, it seems that Belief Polarization brings to light processes that go against our natural intuition.

It follows that the existence of Belief Polarization implies that prior beliefs tend to disproportionately affect the ways by which evidence is gathered. If this is so, then how pervasive is the effect of Belief Polarization and how does the existence of Belief Polarization affect current understandings of disagreement, namely Steadfast and Conciliatory views?

## II. Implications of Belief Polarization on Evidence Gathering Processes

Three important ways by which, in accord with Belief Polarization, our prior beliefs can affect the way we gather evidence are as follows: we tend to scrutinize counter-evidence too heavily, inappropriately assume truth-value to supporting evidence, or simply ignore evidence.

The first two possible implications, of scrutinizing counter-evidence too much<sup>9</sup> and assuming truth of supporting evidence, seem to lead to an inherent discrepancy in evidence gathering, tending to cause rational subjects to fail to uniformly substantiate evidence that they deem appropriate. Additionally, the possibility of ignoring evidence is, in itself, a self-defeating concept. Given, it would seem crazy for someone to take into account all possible evidence and not to ignore that which is irrelevant. For example, when getting to know someone it would seem excessive for you to suspend your beliefs about that person until you had done a full background check and received character evaluations from everyone that knows them. However, Belief Polarization seems to suggest that, due to our biases towards our original beliefs, we might blatantly ignore evidence that goes against those beliefs or acts as counter-evidence. However irrational these processes may seem, they might be more prevalent in our lives than we would like to think. Take for instance the resistance of Darwinism after the publication of Darwin's *Origin of Species*, where educated and rational individuals were opposed to Darwin's evidence.<sup>10</sup> Furthermore, take into account the resistance to both Newton's evidence for his theory of Gravity and Einstein's Theory of Relativity (even after his eclipse experiment that empirically justified his evidence).

<sup>9</sup> For Psychological studies on this, see Kelly, "Disagreement, Dogmatism, and Belief Polarization," page 8.

<sup>10</sup> For more on this see, Dennett, Daniel Clement. *Darwin's Dangerous Idea: Evolution and the Meanings of Life*. New York: Simon & Schuster, 1995. Print.

### III. Further Implications of Belief Polarization

If we take the implications of Belief Polarization out of the context of apparent disagreement, we can reveal the further extent of this phenomenon. Specifically, let us look into the effects that Belief Polarization has on belief forming processes. We will start by isolating and defining the underlying process of Belief Polarization as follows:

The Principle of Belief Polarization:

The existence and nature of prior beliefs tends to cause subjects to disproportionately assess evidence in favor of their prior beliefs.

Now take for example a rational subject, like a juror, who does not necessarily hold a firm prior belief about some specific issue (in the jurors case, presumably the innocence/wrongdoing of the person on trial) and is then presented with a mixed body of evidence that supports opposing views on said issue. Now, going back to Kelly's example, it seems natural that when given a mixed body of evidence, disagreeing subjects would equally reflect on all of the evidence and (at least) narrow their respective gap. Yet, as we now know, the opposite seems to be true in this case, where disagreeing subjects tend to become more polarized. However, does Belief Polarization affect our evidence gathering processes when we have no significant prior beliefs weighing on an issue? Moreover, can Belief Polarization affect us when there is no apparent disagreement? It appears at first glance that, because of the isolated circumstances of the subject, evidence gathering and, more importantly, belief forming processes would naturally remain unadulterated.

Yet, contrary to intuition, Principle of Belief Polarization seems to in fact affect these scenarios. The significance of Belief Polarization in these cases becomes evident by a closer look at the formation of initial beliefs. There are two factors to consider about the formation of initial beliefs in this case: one being the order by which the evidence is presented and the other being the presentation of the evidence itself. The latter factor seems to be more apparent as to how it can affect formation of initial beliefs, as we might tend to believe evidence presented by a certified official, like a doctor, rather than a random person on the street. As Kelly puts it, "It is uncontroversial that there are some circumstances in which one should give considerable weight to the judgments of another party in deciding what to believe about a given question."<sup>11</sup>

The other factor, the order by which evidence is presented, should naturally affect formation of initial beliefs in our subject based solely on the reasonable view that beliefs should be formed as soon as the subject feels he or she has gathered enough supporting evidence to substantiate some beliefs and not of others lacking substantial

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<sup>11</sup> Kelly, Epistemic Significance of Disagreement, page 9.

supporting evidence thus far presented.<sup>12</sup> Likewise, as rational subjects, it seems that, by the end of our evaluation of the evidence presented, we should assess the different apparent beliefs appropriately as supported by the evidence given. It follows then that the presentation and order of evidence do not appear to be epistemically significant because of the nature of rational subjects.

Yet, it appears that the Principle of Belief Polarization weighs on the neutral state of belief forming processes. As the principle suggests, beliefs tend to cause biases on evidence gathering as soon as they are formed. Consider the previous example during which our naïve rational subject assesses a substantial body of mixed evidence concerning an issue in hopes of forming a rational belief. Now given that we know rational subjects tend to form beliefs variably based on the order and presentation of evidence provided and that the biasing effects of the Principle of Belief Polarization manifest as soon as beliefs are formed, Belief Polarization will cause the subject to disproportionately evaluate evidence in favor of their new undeveloped beliefs. Hence, the order and presentation of evidence becomes epistemologically significant, as they now seem to prematurely bias our belief forming processes. So, contrary to natural expectations, our rational subject should be wary of his or her seemingly unbiased approach during belief forming processes. *More broadly, this example should act to parallel similar real-world cases of the pervasiveness of Belief Polarization outside of apparent disagreement and show why we should be less confident in our belief forming processes.*

#### IV. Possible Objections

Consider the Uniqueness thesis:

A body of evidence justifies at most one proposition out of a competing set of propositions and that it justifies at most one attitude toward any particular proposition.<sup>13</sup>

The first objection to consider concerns the relevance and consequences of the Uniqueness thesis to the main argument of this paper<sup>14</sup>. As White points out, "...to the extent that we reject Uniqueness, it is hard to see why one's convictions ought always to be responsive to confirming evidence."<sup>15</sup> So the question arises: does Uniqueness need to be true for Belief Polarization to present a problem? And if not, what

<sup>12</sup> White, R. 2005. "Epistemic Permissiveness," *Philosophical Perspectives* 19. Page 449.

<sup>13</sup> Feldman Reasonable Religious Disagreements page 10.

<sup>14</sup> The argument being: given awareness of Belief Polarization, rational subjects should be less confident in their justification of belief forming processes.

<sup>15</sup> White, "Epistemic Permissiveness," page 454.

significance does Uniqueness hold for or against the significance and implications of Belief Polarization?

It should be noted that Uniqueness is a complicated position for many views in the epistemology of disagreement. White, Kelly, and Christensen all discuss and acknowledge the significance of Uniqueness, relative to the permissive, steadfast, and conciliatory views, as somewhat unclear.<sup>16</sup> Yet, what does seem clear is that permissiveness necessarily denies Uniqueness by holding that epistemic norms are permissive norms (meaning that they are somewhat malleable), which allows for differing propositional beliefs.<sup>17</sup> In contrast, Uniqueness supports conciliatory views, according to which subjects should be less confident in their own beliefs in the face of disagreement.<sup>18</sup>

Although conciliationism and the thesis of this paper both argue that subjects should be less confident in their beliefs, they differ in that conciliationism relies on disagreement as the limiting factor of beliefs whereas the thesis of this paper relies on the effect of Belief Polarization on evidence gathering. In other words, conciliationism relies on the existence of one rational answer as the reason for losing confidence in beliefs whereas the thesis of this paper relies on the seemingly biased process of evidence gathering as reason to be less confident in beliefs. Therefore, the constraint of Uniqueness on conciliationism need not apply to the thesis of this paper.

Yet, as a result, this distinction might lead one to believe that the argument of this paper adopts a steadfast view, one that embraces permissiveness<sup>19</sup>. While the thesis of this paper does in fact hold that two subjects can have rational and opposite views, it necessitates permissiveness due to the existence of biasing effects of Belief Polarization (and the Principle of Belief Polarization) and therefore does not hold that two individuals can necessarily be *equally* rationally opposed. Consequently, the thesis of this paper does not necessitate a steadfast view.

Given these distinctions about the complex implications of the main argument of this paper, it appears that Uniqueness is not considerably relevant to this argument. For, in the case where Uniqueness is true, the Principle of Belief Polarization holds that the way one

<sup>16</sup> White, "Epistemic Permissiveness," page 446, Christensen, D. "Disagreement as Evidence: The Epistemology of Controversy" *Philosophy Compass* 4 (2009), page 763, Kelly, T. "Evidence: Fundamental Concepts and the Phenomenal Conception" *Philosophy Compass*. Vol. 3, No. 5. (September 2008): 933-955.

<sup>17</sup> Rosen, Gideon (2001), "Nominalism, Naturalism, Philosophical Relativism," *Philosophical Perspectives*, 15: 71-73.

<sup>18</sup> For more discussion on the relationship between conciliationism and Uniqueness and how conciliationism may not necessitate Uniqueness, see Christensen, page 763. However, for the sake of this argument the distinction is not necessary.

<sup>19</sup> Christensen, page 763.



could get to the unique attitude would be by biased methods, meaning that it would be somewhat by chance that one would ultimately hold a unique view<sup>20</sup>. Clearly, it would not be epistemically responsible to base unique beliefs on luck and therefore the existence of Uniqueness should not be relevant. Conversely, since the argument of this paper necessitates permissiveness, the falsity of Uniqueness should not affect its significance. Therefore, Uniqueness is not relevant to the impact of the thesis of this paper.

A second objection is that some might think that this view leads to understanding our beliefs as arbitrary due to their biased nature. G.A. Cohen provides an example of relevance of this objection whereby he describes the opposing beliefs of graduates of Oxford and Harvard. Cohen notes that he and other Oxford graduates of his generation tend to believe in the analytic/synthetic distinction while Harvard graduates from the same generation do not.<sup>21</sup> Now imagine that you are getting ready to apply to graduate school and your only two options are Harvard and Oxford and you understand that going to either school will affect how you view the Analytic/Synthetic distinction (and presumably other beliefs). Does this mean that your beliefs are caused arbitrarily by your choice of which school to go to?

The answer, according to the thesis of this paper, is that your beliefs *should* not be arbitrarily affected by the choice of which school to go to but they *may* be. This distinction is due to the contingent claim of the thesis, that in order to be less confident in one's justification one must be aware of Belief Polarization. Thus, given awareness of Belief Polarization we, as rational subjects, should understand and actively combat its biasing implications. Accordingly, in the graduate school example, the fact that you are aware of the effect that your choice of school may have on your future beliefs should cause you to be less confident in your justification of belief forming processes while you are at either school. Furthermore, you should work to combat the effects of either school on your belief forming processes by actively trying to assess evidence pertaining to these issues more carefully<sup>22</sup>. In doing so, you will limit the arbitrariness of your final beliefs. Conversely, it would be epistemologically irresponsible to ignore the biasing effect that these schools have on your belief forming processes and continue to hold the same level of confidence in your future beliefs. The paralleled implications between the awareness of Belief Polarization and awareness of the effects of school

<sup>20</sup> For more on this see White's 'pill popping' example in White, "Epistemic Permissiveness," page 448.

<sup>21</sup> Cohen, G.A. (2000) "If You're an Egalitarian, How Come You're So Rich?" Harvard University Press.

<sup>22</sup> It is possible that the effects of these schools have on your belief forming processes are due to factors other than evidence gathering - like, say, there's 'something' in the vegetables. However, this distinction does not pose a significant threat to the response of this objection, because as long as you are at least less confident in your final beliefs you are being more epistemically responsible than by ignoring the effects. Therefore, your actions can still limit the arbitrariness of this effect.

choice in this example should point to the practicality and pervasiveness of the argument of this paper. This example highlights the epistemic responsibility that the argument of this paper entails and provides ways for us to actively respond to the biasing effects of the phenomenon Belief Polarization.

## V. Conclusion

Now that we understand the mechanisms and implications of Belief Polarization what does it all mean? How should we go about responding to these claims?

This paper is meant to provide a different understanding of the biasing processes of evidence gathering and belief formation and to promote progressive awareness of the responsibility that we, as rational subjects, have to combat these biases. In this paper we have extrapolated the direct and indirect implications of Belief Polarization (and the Principle of Belief Polarization) and have been given examples of the pervasiveness of these implications in evidence gathering and belief forming processes. Consequently, these implications appear to hold strong epistemological significance due to the biased nature of evidence gathering that threatens the notion that our belief forming processes are fairly justified.

In going forth with responding to these findings we should be careful as to how we understand the validity and importance of holding our beliefs. As rational subjects we possess the ability to reassess our decisions and beliefs. Therefore, awareness of Belief Polarization should cause us to be weary of the objectivity of our beliefs and incite in us a heightened sense of rational awareness when gathering and assessing evidence, both in the face of disagreement and even when we are forming new beliefs. So it is important to note that the existence of Belief Polarization does not fully undermine our position as rational subjects and does not take away the full validity of our beliefs.

The views argued for in this paper do not hold that we should abandon our beliefs; rather, we should be less confident in our justification of our beliefs and be more open to reassessment. So, in the face of disagreement we should be careful as to unfairly discount the others' view. In turn, these responses should lead subjects to be more epistemically responsible and progressive.

Broadly speaking, the biasing mechanisms of Belief Polarization may find to play a significant role in resistance to change in huge systems like scientific revolutions and paradigm shifts. Examples of this may include the aforementioned resistance to the discoveries of Newton, Darwin, and Einstein and paradigm shifts like the turn from Orientalism or political history. However speculative the effects of Belief Polarization on these systems may be there seems to be some inclination that widespread awareness of

Belief Polarization could lead to a more progressive society. Yet, individually speaking, the effects of awareness of Belief Polarization seem to be more reasonably promising.