

The Fixation of Belief

0.1 Introduction

In “The Fixation of Belief”, Peirce:

1. discusses the extent to which human beings reason (logic)
2. provides an account of inquiry characterized as initiated by doubt and aiming at belief
3. outlines four different ways of fixing belief. These are the methods of tenacity, authority, the a priori method, and the scientific method.

Peirce will use conclusions he draws, in this essay, concerning the scientific method to formulate, in the next essay, his pragmatic account of *reality*.

0.2 Section I

In the first section, Peirce makes several observations about the capacity of human beings to reason:

1. people don't bother studying logic because they think they are already good reasoners
2. people, however, think that others could use a course in logic because others are not proficient in reasoning
3. people tend to develop their powers of reasoning latter in life as it is not a natural gift

Peirce then points to several different stages of logic:

1. Romans: all knowledge rests on either authority or reason; but reasoning proceeds from premises and these premises are based on authority
2. Roger Bacon: experience teaches us everything, including a kind of inner illumination that could teach us things not observable to the senses
3. Francis Bacon: logic involves experimentation (a kind of falsification) and the a notion of experience that is not something inherently private but must be open to public scrutiny (verification and reexamination)
4. Early science (Copernicus, Tycho Brahe, Kepler, Galileo, Gilbert): application of mathematics and generality to science

Every great work in science, Peirce claims, illustrates some prior defective stage in reasoning.

Example 1 (Old chemistry) *in order to do chemistry, one only need to “read, read, read, work, pray, and read again” while Lavoisier’s method was to carry his flasks into the laboratory and to see what happens when mixing chemicals. Illustrates a new stage in reasoning: reasoning is something to be done by*

manipulating things with one’s eyes open, rather than trying to imagine what would happen.

Example 2 (Darwin) *Peirce points to Darwin as applying the statistical method to biology.*

Discussion 1 *The first section offers mostly preliminary remarks about the nature of reasoning and the briefest possible sketch of its historical development.*

1. *Do you agree with Peirce’s assessment of people in terms of how they self-evaluate their powers of reason and the powers of others to reason?*
2. *Peirce seems to point to major advancements in science as being the result of an improvement in method. A counterexample would be a case where the advancement is not due to method at all. Can you think of any?*

0.3 Section II

Section II concerns two key topics: (i) the logicity and illogicity of human animals and (ii) some remarks on the nature of logic and reasoning.

0.3.1 The logicity and illogicity of humans

One of the more interesting points is what Peirce has to say about how logical human beings are. He contends that we generally reason correctly and are logical animals and this is most likely due to natural selection (EP1:112). That is, logicity in practical matters is the **result of an evolutionary process**.

However, Peirce also points out that our logical powers are not perfect especially in two areas:

1. matters that we are unfamiliar with
2. matters that are not explicitly practical (those that knowing how to reason would play no role in natural selection)

Insofar as we do reason correctly on these matters, Peirce claims it “is an accident” (EP1:112). He contends that when faced with these matters we are “like a ship in the open sea, with no one on board who understands the rules of navigation” (EP1:113).

Further, he contends that in the absence of facts or experience, we generally are **much more optimistic** than logic would allow (the sky is the limit to my conclusions!). He writes “[w]here hope is unchecked by any experience, it is likely that our optimism

is extravagant” (EP1:112).¹ In fact, he suggests that from an evolutionary point of view “it is probably of more advantage to the animal to have his mind filled with pleasing and encouraging visions, independently of their truth; and thus, upon unpractical subjects, natural selection might occasion a fallacious tendency of thought” (EP1:112).

- P1: There are some matters for which there is no *practical* benefit for thinking one way rather than another.
- P2: Concerning these matters, there is an evolutionary benefit to have optimistic, clam, cheery opinions rather than negative, stressful, pessimistic opinions.
- C: Therefore, we are more likely to be optimistic about matters that have no practical significance.

Discussion 2 *It is worthwhile to pause and try to think of areas where we are not shaped to be logical about and where it might be beneficial to have “pleasing and encouraging visions” rather than be logical. What sorts of topics do you think human beings reasons poorly about? What sorts of topics have we evolved a more optimistic tendency of thought?*

0.3.2 Some more points on reasoning

Peirce makes several more remarks on the nature of reasoning.

First, he contends that the goal of reasoning is to **discover something we don’t know from something we do know**, to infer a true conclusion from true premises. And, that contends that reasoning is a **matter of fact**, not of thought. The question is whether B follows from A, not whether we think B follows from A. This allows us to characterize minds as logical or illogical (good or bad): our habit of mind is **good** if it produces true conclusions from true premises.

Second, for any given argument, the reasoning from premises to a conclusion involves **guiding principles**. What Peirce calls a **guiding principle of inference** is nothing more than a proposition that formulates the rule by which we reason.

Example 3 *Suppose I reason as follows:*

- P1: *Tek died after being stabbed with a knife.*
- C: *Therefore, anyone who is stabbed by a knife will die.*

Peirce suggests that my guiding principle is that “what is true of one knife wound is true of every knife wound.”

Third, one problem then is that there are so many guiding principles. That is, there is a guiding principle for almost every given subject matter. However, Peirce points out that **some facts are absolutely essential as guiding principles**. Namely, one set of these are those principles we need to assume (or take for granted) in even asking whether a certain conclusion follows from a set of premises. Some of these include:

1. states of mind such as doubt and belief
2. the possibility of a passage from doubt to belief
3. the object of thought would remain the same over the course of the passage

¹Perhaps an example of this is optimism bias; the tendency to underestimate the time and work involved in the tasks we undertake.

4. that the transition would be governed by rules that apply to all minds

Fourth, since we need to assume these facts in order to have a clear conception of reasoning, Peirce contends that “it cannot be supposed to be any longer of much interest to inquire into their truth or falsity” (EP1:113). The idea here is that there is no point in raising skeptical questions concerning these concepts.

Note 1 *There is a sort of worry here about a kind of Cartesian or total skepticism. That is, Peirce seems to suggest here that we can sidestep the question here given that our goal is to talk about the nature of guiding principles (reasoning). For more on Peirce’s response to this skepticism, see his “Questions Concerning Certain Faculties Claimed for Man”, “Some Consequences of Four Incapacities”, and the beginning of his “Grounds of the Validity of the Laws of Logic”*

At this point, Peirce offers up the suggestion that we might simply look at how people actually reason and formulate our guiding principles from the process of reasoning. In other words, we could derive logical laws from psychology (this view is sometimes called “psychologism”). He writes:

it is easy to believe that those rules of reasoning which are deduced from the very idea of the process are the ones which are the most essential; and, indeed, that so long as it conforms to these it will, at least, not lead to false conclusions from true premises. (EP1:113)

But Peirce quickly rejects this proposal. He contends that if we analyze how people reason, they are profoundly mistaken on all sorts of things.²

Example 4 (Seen vs. inferred) *One set of examples that Peirce often refers to is that people mistake what they see from what they infer.*

1. *We might contend that we see depth, but, in reality, this is a product of inference.*
2. *We might think that our visual field is completely unbroken but, in fact, we filter out the blind spot.*

Discussion 3 *Can you think of other examples of where people contend they have seen something but, in reality, have only inferred it?*

0.4 Section III

This section concerns the distinction between doubt and belief. Peirce begins by distinguishing doubt from belief in three ways.

- we know the sensation of **doubting** because we are inclined to ask questions and we know the sensation of **believing** because we are inclined to make a judgment

²In “Fixation of Belief”, Peirce points to the example of a **quality**. Peirce seems to suggest that while we do see various colors, e.g. blue, green, red, the quality of being blue, being green, or being red are not things that we see. Instead, they are products of logical reflection. That is, they are abstractions.

- when we **doubt**, we are not inclined to act in a habitual way and when we **believe**, our actions are guided by that belief (e.g. The Assassins who would run to their death)
- when we **doubt**, we are often in an uneasy or dissatisfied state and we aim to free ourselves from this state by believing in something and when we **believe**, we are in a clam, satisfactory state that we don't aim to avoid but instead cling to belief

Given the distinction between doubt and belief, Peirce indicates that each has a different **effect** on us.

In the case of **belief**, he contends that when we believe something, we don't always act on that belief. Instead, when we believe X, we have a disposition to behave in a certain way when circumstances arise. He is thus asserting that **belief is of the nature of habit**: *if x happens, then I will do y.*

In the case of **doubt**, Peirce contends that it is instead not a disposition or habit but a kind of stimulus to action. Namely, it is a kind of irritation that we seek to remove or destroy.

To illustrate both of these points, Peirce offers a physical analogue. In the case of doubt, he points to the irritation of a nerve and its effect on us is our reflex to remove that irritation. For example, if I were to poke you in the arm with a pin, you might wince in pain or pull your arm away.

In the case of a habit, he points to nervous associations. These associations are presumably built up with experience and only arise in certain circumstances. Suppose you love peaches. If you are about to eat a peach and smell it before you eat it, your mouth begins to water.

0.5 Section IV

Peirce begins this section with his provisional definition of **inquiry**.

Definition 1 (inquiry) *Inquiry is the struggle caused by the irritation of doubt to attain a state of belief*

From this Peirce contends that contends that **the goal (or object) of inquiry is nothing more than the settlement of opinion**. That is, whenever we encounter a doubt (a kind of irritation), the aim of an inquiry is to remove that doubt, viz., to replace it with a belief.

Objection 1 *Peirce raises the possible objection that the real goal of inquiry is not the settlement of opinion (the fixation of belief) but instead having a true opinion.*

He goes onto reject this objection. He contends that once an individual has a firm belief (one that they take to be true), they no longer inquire at all. And so, it follows that the real goal of inquiry cannot be some notion of truth beyond the fixation of belief.

Peirce insists on the importance of the claim that the **settlement of opinion is the sole end of inquiry**. He contends

that it “sweeps away, at once, various vague and erroneous conceptions of proof” (EP1:115). He offers three illustrations (only two are given here):

Example 5 (Cartesian skepticism) *The first conception of proof is that of the methodological skeptic. The skeptic begins by trying to doubt everything, discovering some proposition that cannot be doubted, and then constructing a system of belief.*

*Peirce contends that methodological skepticism suffers from a mistaken notion of **doubt** and **inquiry**. If inquiry is the struggle caused by the irritation of doubt to attain a state of belief, then the skeptic fails to produce the necessary state required to induce inquiry. At least according to Peirce, the skeptic's doubts are **fake doubts** (nothing more than putting propositions into the interrogative form) and so there is no genuine struggle to attain belief.*

Example 6 (Axioms and indubitable propositions)

The second conception of proof involves positing some general propositions that are ultimate, fundamental, and cannot be doubted. These either take the form of some first principles or first sensations.

But Peirce contends that this notion of proof is mistaken. If inquiry is the struggle caused by the irritation of doubt to attain a state of belief, then the only necessary starting point for an inquiry are those premises that are free from all doubt. We don't need to start with first principles, we only need to start with the propositions we believe and only doubt that which we have positive reasons to doubt.³

Discussion 4 *What do you think of Peirce's definition of inquiry? Is all inquiry tied to some doubt? Is what we are after nothing more than the fixation of our belief or do we want something more from belief?*

One of the consequences of it is that it seems to do away with the necessity of having some absolutely indubitable starting point for knowledge (e.g. some first sensations or first principles). This is a bold claim since it attacks rationalists and empiricists alike. What else would Peirce have to show in order to make this consequence of his account of inquiry plausible?

0.6 Section V

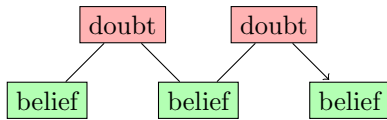
Section V is the most famous part of “The Fixation of Belief”. It is probably the part that is most discussed. Sometimes the literature seems to ignore Sections I-II altogether.

Peirce begins this section by recalling two earlier propositions:

1. the nature of belief is habit (if X, then Y)
2. the settlement of opinion is the sole object of inquiry

If the nature of belief is habit and if the settlement of opinion is the sole object of inquiry, then we now have a question about how we should go about settling opinion: *What method should*

³For more on this, see “Questions Concerning Certain Faculties”, “Some Consequences of Four Incapacities”



we use to fix our beliefs? In Section IV, Peirce considers **four methods for fixing belief**.

0.6.1 The method of tenacity

The first method Peirce outlines is the method of tenacity.

In general, the method works as follows: if a doubt arises about X, take a particular position on X, constantly reiterate that position to yourself in a way that you begin to believe X, then shut out anything that might cause you to doubt X.

Peirce makes several observations about this method.

First, the method is *simple* and *direct*.

Second, it is *understandable* given the fact that doubt is uncomfortable. Peirce writes that “the instinctive dislike of an undecided state of mind, exaggerated into a vague dread of doubt, makes men cling spasmodically to the views they already have” (EP1:116).⁴ In short, we hate doubt so much that we are willing to hold onto anything that removes it.

Third, it is *understandable* given that immovable faith often yields a kind of peace of mind.

Objection 2 Peirce notes that such faith might give rise to “inconveniences”.

Example 7 (fire burns) *If I believe that fire does not burn, I might not be very careful around a fire and burn myself.*

Example 8 (stomach pump) *If I believe that I will be eternally damned unless I receive my nutrition through a stomach pump, I might live a rather painful life.*

Peirce’s response, however, is that the individual might take the inconveniences mentioned above to be less than the inconveniences of being in a state of doubt. He writes that

But the man who adopts this method will not allow that its inconveniences are greater than its advantages. [...] And in many cases it may very well be that the pleasure he derives from his calm faith overbalances any inconveniences resulting from its deceptive character.

Let’s put this argument in the following form:

- P1: The inconveniences of doubt is greater than the inconveniences of belief.
- P2: In some cases, it is less inconvenient to hold to a false belief than to be in a state of doubt.
- Therefore, many individuals will simply hold their beliefs rather than doubt.

⁴Note that Peirce is suggesting that the method of tenacity explains the status quo bias.

In short, while the method of tenacity may cause people to hold tenaciously to beliefs that cause them inconvenience, the benefit of having the benefit outweighs the inconveniences of doubt.

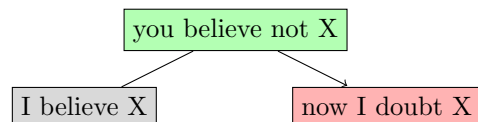
Example 9 (joys of stomach pump) *Suppose Tek believes if he takes his food through a stomach pump, he will be granted entrance into heaven. This belief gives him great joy and comfort even though taking food through a stomach pump causes him a fair amount of pain.*

Ultimately, Peirce contends that if someone were to go through life by simply burying their head or blocking out any doubts, then **there is no serious point of criticism we can level at this individual**. They have a method that seems to work perfectly for them.

It would be an egotistical impertinence to object that his procedure is irrational, for that only amounts to saying that his method of settling belief is not ours. He does not propose to himself to be rational, and, indeed, will often talk with scorn of man’s weak and illusive reason. So let him think as he pleases (EP1:116)

However, Peirce objects that this method is **nearly impossible to maintain in practice**. He contends that “[t]he **social impulse** is against it” (EP1:116, my emphasis).

The idea here is that while Tek may believe X and try to block out any doubts concerning X, as a human being, Tek is a **social animal**, and so he is bound to come into contact with individuals who do not believe X. Given that he comes into contact with these individuals, Tek may wonder whether or not they are right about X. That is, Tek may think that other people’s opinions are as good as his (at least in some matters) and so he will come to doubt X. While the method of tenacity is perhaps possible if we isolate ourselves from other people and other ideas, Peirce thinks that what other people think influence our own thoughts.



Peirce thus contends that the real question of how to fix belief is not how to fix it in an individual belief but how to **fix the belief of the community**.

Discussion 5 *It is easy to think that the manner in which you fix your own belief does not follow the method of tenacity. But recall the very first lines of “The Fixation of Belief”: “Few persons care to study logic, because everybody conceives himself to be proficient enough in the art of reasoning already. But I observe that this satisfaction is limited to one’s own ratiocination, and does not extend to that of other men.”*

Perhaps one example of the method of tenacity that is extremely widespread is the confirmation bias fallacy (tendency to search for evidence that supports your existing beliefs and disregard evidence that conflicts with those beliefs). For example, you might believe in ghosts and then when you hear a bump in the night, you will take it as evidence that ghosts exist. Can you think of other examples?

0.6.2 The method of authority

The **method of authority** is a method adopted by various bodies (e.g. religious institutions, the State) that aims to fix the belief of individuals through indoctrination and force. It sets out a set of propositions to be believed, these propositions are reiterated perpetually, taught to young people, and various efforts are aimed at preventing individuals from believing or expressing contrary doctrines.

The State aims to remove even the possibility of thinking differently about the prescribed doctrines. They may simply keep the public ignorant, discourage free expression, engage in coordinated propaganda directed at hating contrary doctrines, or simply use force.

let all men who reject the established belief be terrified into silence. Let the people turn out and tar-and-feather such men, or let inquisitions be made into the manner of thinking of suspected persons, and, when they are found guilty of forbidden beliefs, let them be subjected to some signal punishment. When complete agreement could not otherwise be reached, a general massacre of all who have not thought in a certain way has proved a very effective means of settling opinion in a country (EP1:117).

In terms of **examples**, Peirce points to the fact that various religious and political beliefs have been fixed using this method. He points to Numa Popilius and Pius Nonus and to various aristocracies.⁵

Discussion 6 *Peirce's text was published in 1878. We might read his remarks on the method of authority as not applying in our day and age. What present day examples of the method of authority do you see today (e.g. by the State, by the media, by the educational system, etc)?*

In terms of its **efficacy**, Peirce notes that the method of authority is far superior to the method of tenacity. He contends that this particular method has yielded "majestic results" pointing to various huge structures (e.g. pyramids) and the longevity of various religions. Further, he notes that it is probably the **best method for the masses**, writing

For the mass of mankind, then, there is perhaps no better method than this. If it is their highest impulse to be intellectual slaves, then slaves they ought to remain (EP1:118).

However, he is quick to note a serious problem with the method.

Objection 3 *Peirce contends that "no institution can undertake to regulate opinions upon every subject" (EP1:118). Since various bodies of authority cannot regulate every possible opinion but instead can only regulate those opinions they take to be*

⁵One interesting point is that he contends that (i) the method almost always invites cruelty and atrocities and (ii) that the agents of this cruelty do not feel justified in sacrificing the interests of society for the sake of mercy. This seems to suggest that the method of authority runs so deep that the agents of the cruelty believe themselves to be doing good rather than harming others.

most important. This inability to regulate every opinion though creates a further problem.

The problem is that since (i) not every opinion can be regulated and (ii) one opinion can influence another (social impulse), it follows that (iii) it is possible that the regulated opinions can be doubted.

Example 10 (Influence of other cultures and ages)

Peirce gives an example of how this might occur. Suppose Tek lives in a country where opinion on various topics are highly regulated. He, however, sees people in other countries who believe differently than he does or he reads books about people in different ages who believe differently than he does. He is thus led to believe that his beliefs are nothing more than accident; that is, he only believes what he believes because he lives in the culture that he does. Tek's beliefs thus have some degree of arbitrariness and perhaps determined by the caprice of those in power.

Ultimately then, Peirce thinks that rejecting the method of authority will lead to a search for a new method that not only produces an impulse to believe but "shall also decide what proposition it is which is to be believed" (EP1:118). The method not only will **fix belief** but also make its fixation not due to the caprice of agents of the State.

0.6.3 The a priori method

The third method that Peirce considers is the **a priori method**. This method is somewhat unclear but Peirce makes several remarks concerning it.

Peirce characterizes the method as a process of unimpeded natural preference or reflection. He contends that the "very essence of it is to think as one is inclined to think." The idea here is that the method does not rest upon and is not checked (or impeded) by observed facts but instead we simply think through whatever doubt we have until we happen upon a belief that seems right to us. The method is characterized by destroying doubt by finding propositions that are "agreeable to reason", viz., what we find ourselves naturally inclined to believe

An alternative way that Peirce characterizes this method is that the method is dialogical in nature. That is, belief is fixed through a process of discussion. That is, individuals may have doubts about X and they converse until the point where they reach some sort of consensus about X.

Under these characterizations of the method, the **a priori method** is similar to **method of authority** in that it has the **potential fix belief in the community rather than merely the individual**.

Peirce notes that our conception of **art** and much of **metaphysics** is largely due to this method.

Example 11 (Plato's proportionality) *distances of the planets are proportional to the distance of different strings that produce harmonious chords*

Example 12 (Self-interestedness) *The idea that people only act with the aim of improving their own self-interest (pleasure)*

In terms of the **merits** of the a priori method, Peirce notes that it is “far more intellectual and respectable from the point of view of reason” than the other two methods (EP1:119). And, at least on the surface, it looks **more intellectual** in that fixing one’s belief involves a kind of development or process of thought.

Objection 4 (arbitrary, capricious) *But, Peirce notes, that the a priori method is problematic for the same reason that the method of authority is problematic. Recall that Peirce criticized the method of authority because the method did not play a role in what proposition was to be believed. What did dictate the proposition to be believed was some individual or group (e.g. the State). Because of this, beliefs were marked by an arbitrary or capricious element.*

According to Peirce, the a priori method also involves arbitrary or capricious elements and so the method “does not differ in a very essential way from that of authority.” According to Peirce, the manner in which the a priori method develops our opinions to the point of fixation is similar to the development of taste. Peirce contends that

1. *while there is some development of thought and thus removal of arbitrariness, this development only involves the introduction of some other arbitrariness, e.g. cultivation of one’s view on what is fashionable*
2. *like fashion, Peirce contends there is also a kind of capriciousness which is evidenced by the fact that what is believed often changes*

Again, the problem with the arbitrariness of the method is that it elicits doubt. Similar to the method of authority, we only need to have one opinion to create a doubt in an opinion fixed by the a priori method and this can cause us to doubt our belief. For instance, we only need to see that what is agreeable to our reason is not agreeable to someone else’s reason and assuming we think they are just as reasonable as we are, we have reason to doubt our beliefs.

Example 13 (Christianity in the Hindoo World) *Peirce offers an example of this when he points to the problem of spreading Christianity to the Hindoos. He points out that even if the State plays no role stopping the spread of Christianity to the Hindoo world, their belief that the Christian way of treating women is immoral (a sort of development taste or view) blocks its spreading.*

Discussion 7 *What beliefs do you think are accepted simply because they seem agreeable to people’s “reason” or “taste”? (e.g. the earth is flat).*

0.6.4 The scientific method

The fourth and final method is the **scientific method**.

First, Peirce begins the discussion of the scientific method by pointing out that in order to avoid the problem of arbitrariness and caprice, it is necessary that a method of fixing belief be

founded on something our thought has no effect: an **external permanency**.

Second, Peirce is then quick to note that the external permanency in question cannot be some external thing that only one individual can access. He thus rejects the idea of some sort of mystical or religious access to truths given by God. The external permanency in question thus is a **publicly accessible external permanency**. Some thing that affects (or can effect) every individual.

Third, Peirce then notes that the publicly accessible external permanency affects every individual, it need not affect them in exactly the same way. For example, if we are both looking at a blue dress, we need not be effected by the dress in the same way (e.g. you may see the blue as a lighter shade of blue than I do, or it may look more vibrant to you because of where you are standing). Nevertheless, he contends what is important about the external permanency is that **while the affections of the external things may vary, the “method must be such that the ultimate conclusion of every man shall be the same” (EP1:120)**. That is, while **real things may impact us differently, the conclusions we draw concerning that object should coincide**. That is, following this method is supposed to take individuals who follow it and **lead them to the same conclusion**.

To summarize, Peirce contends that the scientific method makes the following “fundamental hypothesis”:

There are real things, whose characters are entirely independent of our opinions about them; those realities affect our senses according to regular laws, and, though our sensations are as different as our relations to the objects, yet, by taking advantage of the laws of perception, we can ascertain by reasoning how things really are, and any man, if he have sufficient experience and reason enough about it, will be led to the one true conclusion (EP1:120).

In short, the method of science

1. posits the existence of a (i) publicly accessible external permanency (reality), some real things independent of our opinions that influences the senses according to regular laws
2. is capable of taking individuals (who are variously affected by these things) from a state of doubt to a shared opinion

Peirce immediately raises the following objection to this claim.

Objection 5 *If we are to accept the scientific method, then we must believe that there are real things. But how can we know there are real things unless we use the scientific method?*

Peirce has roughly four responses.

First, he contends that the method is consistent with the reality of things when he contends that if the scientific method cannot prove the existence of real things, its use does not lead to a proof that there are no real things. Therefore, the assumption is **consistent** with the method.

Second, he also gives a kind of argument from the success of science. Namely, the use of the scientific method has led to great

triumphs in settling opinion and so there is evidence to support the fundamental hypothesis that there are realities.

Discussion 8 *There are two other explanations I don't fully follow. Take a look at both of these (EP1:120, W3:254) and see if you can make sense of them.*

0.6.5 Explaining the scientific method

Peirce makes it clear that he wishes to give a **more complete account of the scientific method**. “The Fixation of Belief” is actually the first of a series of essays aimed at detailing what this fourth method involves. The entire series consists of the following essays:

1. “The Fixation of Belief”
2. “How to Make Our Ideas Clear”
3. “The Doctrine of Chances”
4. “The Probability of Induction”
5. “The Order of Nature”
6. “Deduction, Induction, and Hypothesis”

In “The Fixation of Belief” is merely a preliminary to this more complete description. In this essay, however, he does provide some points of contrast between the scientific method and the other three different methods.

The main point of contrast Peirce notes is that the scientific method **is the only method that presents a right and wrong way of using it**.

1. In the case of the **method of tenacity**, if you have a doubt about your use of the method, you only need to apply the method of tenacity and your doubt about its use is gone. In short, you cannot be wrong about your use of it.
2. In the case of the **method of authority**, the State may try to squash public dissent in a way that (from a rational point of view) is grossly ineffective. But, the only test of the method of authority is what the State thinks and so it cannot be wrong.
3. In the case of the **a priori method**, however you are naturally inclined to think is a correct use of the method. According to Peirce, using the a priori method to analyze how you think, you are inclined to think you are thinking correctly. And so you cannot be wrong in your use of the method.

For Peirce, it is only the **scientific method** that allows for the possibility of being right or wrong about your use of the method. According to Peirce, if you start from known and observed facts and reason to some unknown proposition, whether you reasoned correctly depends upon whether you used rules that lead you from true premises to a true conclusion. And, he contends the only way to test that is to apply the scientific method to your method of reasoning. He writes:

The test of whether I am truly following the method is not an immediate appeal to my feelings and purposes, but, on the contrary, itself involves the application of the method. Hence it is that bad reasoning as well as

good reasoning is possible; and this fact is the foundation of the practical side of logic.

Discussion 9 *It is not clear to me what Peirce is saying here. On the one hand, he seems to suggest that we can apply the scientific method to the scientific method and this can tell us whether or not we are applying the method correctly. This would be something like, we can give a logical analysis of the scientific method (e.g. were the statistical methods used correctly, etc.).*

How do you interpret the idea that the scientific method is the only method can distinguish between a right and wrong way or using it?

While Peirce only points out the fact that the scientific method is the only method that gives you a way of determining if it is applied correctly, from what he says earlier, we can point to a number of other strengths of the scientific method:

1. not determined by human caprice (arbitrariness) because it depends upon an external reality
2. not determined by individual self-consciousness (public, in line with the social impulse)
3. it is the only method that presents a right and wrong way to use it
4. it is the only method that allows for one's belief to coincide with fact
5. capable of fixing not only an individual's belief but the belief of the community

0.6.6 The strengths of the other methods

Peirce is keen to note that it is not the case that the other three methods have no advantage over the scientific method.

The **a priori method** is advantageous because its conclusions are often comfortable. Peirce seems to imply that the a priori method lends itself to conclusions that make us happy or that inflate our egos. That is, we may be inclined to think that our neighbors are kind, or that driving cars is safe, or that you yourself are a good person. Peirce suggests that the method puts us in a “pleasing dream” until we are woken up by “rough facts”.

The **method of authority** has its advantage because it has been and always will be the method that will govern the masses. Peirce also offers up several other interesting points on this method:

1. the State will always be inclined to suppress “dangerous reasoning” (EP1:121)
2. that even when the State does not use force to suppress dangerous reasoning, they will use other means: “uniformity of opinion will be secured by a moral terrorism to which the respectability of society will give its thorough approval” (EP1:122).
3. that intellectuals almost never reveal their full thought since they are aware that any sort of tabooed beliefs will mean they will be subjected to a kind of cruelty: “wherever you are, let it be known that you seriously hold a tabooed belief, and you may be perfectly sure of being treated with

a cruelty less brutal but more refined than hunting you like a wolf” (EP1:122)

Concerning the **method of tenacity**, Peirce notes that it is advantageous (or admirable) for its “strength, simplicity, and directness”. It is the method that Peirce says he admires the most as it takes a level of courageousness to completely dismiss reason and hold fast to one’s beliefs.

Discussion 10 *Can you think of any other advantages that either Peirce mentions or you can think of about the three non-scientific methods?*