

## PEIRCE'S FALLIBILISM: A THEMATIC ANALYSIS AND THE REVISITATION OF THE ORIGINS OF FALLIBILISM

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### Abstract

*This paper thematically analyzes Charles Sanders Peirce's doctrine of fallibilism. Peirce's fallibilism is best construed as an epistemic thesis that tries to correct the excesses of and mediate between Cartesian dogmatism and skepticism. Hence, as a theory of epistemic justification, it is neither overly confident like foundationalism nor overarchingly cynic like skepticism. It grants the possibility for knowledge, yet, this knowledge is not foregrounded on absolute warrants. The paper therefore argues that, it is at this juncture that the theory runs into the problem of vagueness: if we are not certain at which particular point a given piece of information becomes knowledge, how can we know we have arrived at it yet? Subsequently, Peirce's novel introduction of hope (as an epistemic principle) and the self-corrective nature of inquiry makes his theory more convincing. Thus, we do not need to worry about arriving at the knowledge, because doubt necessitates inquiry which in turn is self-corrective. So, the more the inquiry, the surer we are of arriving at knowledge.*

**Key words:** Doubt, epistemic, fallibilism, Knowledge, Pierce, inquiry.

### Introduction

Fallibilism as a term was coined by Peirce in the 19th century although philosophers before him specifically the ancient skeptic Philo of Larissa, Carneades and perhaps David Hume have grappled with the idea. Fallibilism knotted to Peirce is construed as an intellectual attack on foundationalism/dogmatism which calls for a disposition to the possibility that one has made an error and a corresponding admittance to give a fair hearing to arguments that one's belief is false – whatsoever the belief is about (Pojman, 2001).

Peirce's fallibilism (and in fact, fallibilism as a concept) is the consequent of and a remarkable attempt to deal with or manage the challenges caused by uncertainty in our efforts to acquire knowledge. Whether he succeeded is what I shall look at. In what follows I shall canvass Peirce's whole idea of fallibilism and in doing so, identify and address its shortcomings. I shall discuss, the extent to which fallibilism according to Peirce applies. I shall as well, show whether according to

Peirce uncertainty renders reasoning or attempts to acquire knowledge, an ineffectual tedious work or whether it is an invaluable catalyst that propels reasoning, knowledge acquisition or inquiry. Against this backdrop, I shall in this paper recapture Peirce's own expressions of fallibilism and then analyze some of its merits and demerits.

### **Peirce's Contrite Fallibilism**

Peirce built his idea of fallibilism on the nature of reality, common sense, truth and the self-corrective nature of knowledge. How are these elements connected? Fallibilism is a method of knowing, thinking and disposition to life. If fallibilism is about knowledge, then it is knowledge about how things are or at best appear to be (reality). This reality is in turn, consists in how things persistently force themselves upon our recognition, where existence is nothing but a matter of degree of the universe's growth. Consequently, neither existence nor reality is absolute. More so, truth in this regard, is the belief at the ideal end of inquiry, it is the value of a proposition, which in Peirce's philosophy is an intellectual sign that interpose between an object (state of affairs) and an interpretant. Thus, truth is relative on the one hand to the conceptual resources of sign users and on the other hand restricted by the practical circumstances that relate the object and sign users. So, for as long as learning continues and practical circumstances change, truth in this sense can never be fixed (Houser, 2006). The learning that goes on in this whole process ensures the self-corrective nature of knowledge amidst the community of enquirers. If these elements are so construed and can be knitted this way, then the place of fallibilism (which is a convergent factor for all of them) is palpable.

Peirce held a broad (as in encompassing) view of fallibilism and a weaker or perhaps moderate notion of it. This is most obvious in his 1893 paper on fallibilism which those who have collated his works have placed in the autobiographical comments gathered as a preface for the Harvard edition:

...the first step toward finding out is to acknowledge you do not satisfactorily know already [...] no blight can so surely arrest all intellectual growth as the blight of cocksureness [...] Indeed, out of a contrite fallibilism, combined with a high faith in the reality of knowledge, all my philosophy has always seemed to grow.<sup>1</sup>

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<sup>1</sup> C.S. Peirce, *Collected Papers*, C. Hartshorne, p. Weis and A. W. Burks (eds.) (Cambridge: Harvard University Press, 1931-1958), (1. 13-14, c. 1897). **NOTE:** All subsequent citations of Pierce will be taken from this material and will be referenced intext as "CP" with the corresponding chapter and section number.

Peirce's fallibilism as a contrite one adds a new idea to epistemology, and that is, the notion of humility. For Peirce, this humility is more rueful (contrite) because it is as though nature necessarily demands it of us, a difficult lesson learned when we must for instance, concede that the earth is not flat after a long time of propounding theories from that perspective or from Peirce's own example, we must as though have forced, to accept that heavy bodies do not fall faster than light ones despite the common sense of generations. Now the gist of this line of thought is that it is possible to remain open to new evidence and propositions while also justifiably treating an issue as resolved for the purposes of current inquiry and action. To put it succinctly, Peirce meant that "people cannot attain absolute certainty concerning questions of fact" (CP. 1. 13-14).

Furthermore, going back to Peirce's own expressions of fallibilism, he argues that we can never anticipate or trust that we can arrive at absolute certainty, absolute exactitude, or absolute universality through ratiocination. However, if we cannot by reasoning arrive at exactitude, certitude, and universality, then there is no other means to reach them; not even by direct experience, intuition of innate truths, not by revelation. (CP. 1.142). Thus, "we can never be absolutely sure of anything, nor can we with any probability ascertain the exact value of any measure or general ratio" (CP. 1.147). A more vivid definition of fallibilism in Peirce's own words is that: "Fallibilism is the doctrine that our knowledge is never absolute but always swims, as it were, in a continuum of uncertainty and indeterminacy" (CP. 1.171).

From these few lines, it can be observed as Susan Haack (2006) did, that Peirce's fallibilism is in one hand, an epistemological thesis (about our predilection to hold false beliefs) and on the other, an epistemological recommendation (that we should desire to learn and not be satisfied with what we already know). Consequently, it seems appropriate to recapture Peirce's fallibilism as a thesis and a recommendation, so in the succeeding sections of this paper, I shall get to it.

### **Peirce's Fallibilism as an Epistemological Thesis**

The focal point in Peirce's theory is the limitations of human cognitive tools and the cognitive method. While the former points to the incapability of the human intellect to view all the possible aspects of an object of enquiry or that no infallible intuition, the latter concerns the error that could ensue in measurement or uncertainty prefaced by inductive reasoning. For these reasons, Peirce accentuates a prudent epistemological posture (CP. 1. 13-14).

Peirce expanded this theory by trying to avoid the trappings/drawbacks of Cartesian foundationalism and skepticism. Thus, Peirce's fallibilism (as an epistemic thesis) can be conceived as in intermediate between dogmatism and skepticism. Hence, Haack sharing this view, avers that a proper statement of fallibilism in this regard, makes it a thesis about cognitive agents and their wit for knowledge and /or belief, which abjures that any of our beliefs is absolutely certain, so that it is less confident than dogmatism, while permitting that we do have some knowledge, or some justification for our beliefs, in this way it is less cynic or despondent than skepticism (Haack, 1979).

More so, Peirce's fallibilism as an epistemological thesis incepts as an attack on Descartes's foundationalist epistemology. This is clear in his critique of the said epistemology where he instigates that: "no infallible faculty of intuition," such as the Cartesians visioned would provide the substrata of knowledge. He avers on the one hand, that we are already repeatedly faulty in matters pertaining the claim for infallible intuition; and on the other, even if we were to have such power, it could not perform the exact epistemological role (assurance for indubitability), because it would require that it be accompanied by a further infallible power to distinguish between authentic declarations of intuition and those of shamers etc. (CP. 5.213ff; 5.264). We cannot envision knowledge which is perfectly exact, absolutely indisputable or limitlessly universal, Peirce argues elsewhere. To envisage the idea that we can have infallible scientific knowledge, he retorts, is 'irresistibly comic' with regards to the fact that even in the most exact sciences careful practitioners admit the unavoidability of experimental error (CP. 1.8). He also observes that induction always involves projection, from particular to the whole specie of the class, and this prefaces an inevitable element of uncertainty. He adds that there is irreducible indeterminacy in the world, that is, there is no absolute necessary and exceptionless law and as a consequence, our knowledge must fall short of universality (CP. 1.146). Finally, in the face of the finite life cycle of scientific theories which are either modified or replaced under several innovative pressure, Peirce insisted that, we must concede the inability to attain the final and definitive truth in the theoretical concerns (and perhaps otherwise) of natural sciences (CP. 1.135).

### **Peirce's Fallibilism as an Epistemological Recommendation**

Peirce epistemological recommendation is a consequent of the thesis/theory. It is an answer to: if we cannot trust our cognitive faculty for absolute certainty, if there are no exactitude, universality towards truth and knowledge, what then do

we do? In the “First Rule of Logic,” Peirce, even though indirectly pointed out (his fallibilism) in a passage ushering in his celebrated maxim:

Upon this first, and in one sense this sole, rule of reason, that in order to learn you must desire to learn and in so desiring not be satisfied with what you already incline to think, there follows one corollary which itself deserves to be inscribed upon every wall of the city of philosophy, do not block the way of inquiry (CP. 1.135).

Peirce uses this, as it were, to decry metaphysicians who fall prey to the error of being assuaged with what we already tend to think that we lose touch of the appetency to learn; and this becomes evident in the following ways: in absolute declarations, in propositions that one thing or the other can never be known, in claims that perfect truth has been formulated and in claims that something is enigmatic (CP. 1.135). This seems to be about a procedural issue or perchance an ethical one.

The main theme of the ‘recommendation’ to look out for in the above quotation is “...do not block the way of inquiry,” it characterizes Peirce’s answer to the questions that arise as a result of the fallibilistic thesis, what do we do? According to Peirce, we should keep or continue learning. This recommendation is a procedural or methodological approach towards the confusion created by the lack of an infallible way of knowing and an infallible knowledge.

Peirce’s recommendation is primarily a charge for intellectual humility and the declaration that the root of knowledge cannot in any way stabilize in minds that become inimical, impenetrable and prohibitive impediment to new ideas. This is underscored by Peirce’s 1893 paper, that: “nothing can be more completely contrary to a philosophy the fruit of a scientific life than infallibilism, whether arrayed in its ecclesiastical trappings, or under its recent ‘scientistic’ disguise” (CP. 1.8).

From this perspective, Peirce would be seen to state directly and clearly that he did not envisage that fallibilism would be a thing agreeable to conservative philosophers, those who shudder at thinking outside the box, but to radicals. Not to overconfident (‘cocksure,’ in Peirce words) radicals, but to radicals who endeavor to experiment and who are eager to accept consequences and willing to carry them to their extremes. According to Peirce, such radicals are energized by the spirit of science and it is amongst this kind of people that fallibilism will find its supporters (CP. 1.148).

Furthermore, another supposition that connects fallibilism to recommendation is that we would not have admitted that we are fallible if it was not for the fact that

there are cases where some of the beliefs we confidently held have been falsified. We have been in error; it is only reasonable to be ready to give up our present beliefs should the evidence give a contrary support. Peirce accentuates the importance of the realization that we have been faulty when he observes for instance, that what we now believe to be mathematical propositions were once firmly accepted. Sometimes these errors would remain undetected for long. However, when discovered we should be ready to let go (CP. 1.13-14).

Ultimately, as an epistemological recommendation, Peirce's fallibilism, calls attention to and seeks to avoid what Peirce identified as the "four familiar shapes of venomous error that assails our knowledge." The first is the shape of absolute assertion. According to Peirce, fallibilistic position is supposed to avoid such overconfident assertions made by science because it contradicts ancient truth that presupposes that we can be sure of nothing (CP. 1.136). The second error is that which absolutely maintains that some things can never be known [skepticism]. This is wrong because we cannot by today's measure determine for tomorrow (CP. 1.39).

The third error which fallibilism bids us to avoid is the "philosophical stratagem that cuts off inquiry by maintaining that this, that, or the other element of science is basic, ultimate, independent of aught else, and utterly inexplicable" (CP. 1.139). Such a claim is often made not because of a fault in our knowing but because there is nothing to know. Peirce observes that such a conclusion can only be reached by 'retroduction.' Retroductive inference is only justified by its affording explanation of the facts. It is however not an explanation to pronounce something inexplicable. Consequently, the assertion (that some things are basic and inexplicable) is a conclusion that can never be justified (CP. 1.139). Finally, the fourth error that fallibilism as a recommendation charges us to avoid is that which maintains that this or that law or truth has found its last and perfect formulation (CP. 1.140).

### **Mapping out the Grounds for Peirce's Fallibilism**

Peirce, to arrive at his doctrine of fallibilism looked at what we call sources of knowledge – as in our stack of beliefs or according to Houser (2006), our information base– and by the limitations that can be found in them while examining each of them, it can be concluded that we can never really have universal, exactitude of knowledge or an infallible intuition. This information base includes inference, perception, instinct, and can also be extended to insight, intuition, testimony, inspiration, revelation and as Peirce would stress *il lume naturale* (the natural light, a phrase he borrowed from Galileo Galilei) (Nubiola,

2004). In what follows I shall try at best to highlight them, briefly and succinctly I shall consider whether any one of them can give us anything more than a fallible knowledge or a fallible ground for one.

It would be good to start with perception which is the intellectual progeny of the late enlightenment epistemologists. According to them, it is through perception that we acquire most of our knowledge. Even Peirce conceptualized this in his claim: “the elements of every concept enter into logical thought at the gate of perception and make their exit at the gate of purposive action” (CP. 5.212). So, it would not be a mistake to suppose that this is the main source of scientific or theoretical knowledge (our accumulated store of intellectual interpretants) (Houser, 2006). Hence, is there any product of perception that seems immune to fallibility? The answer is possibly no, even though perception does not admit to the fallibility of its own production.

Perception according to Houser, appears to encompass the sensory-cognitive process that commences in sense impressions and ends with perceptual judgment. Accordingly, neither the sense impression nor the percept expresses anything that we can add to the stack of information or that we can reason from, so we are left with perceptual judgment as a source of knowledge that begins in sensory experience. Now, perceptual judgments are judgments and judgments are products/conclusions of inference (Houser, 2006). According to Peirce, “abductive inference shades into perceptual judgment without any sharp line of demarcation between them,” so much that, perceptual judgments are to be conceived as extreme cases of abductive inferences” (CP. 5.181). These judgments later become a referent (first premises) from which during the course of our experience, we are able to draw more and more remote conclusions and fill out our stack of information. However, knowledge through this medium cannot be immune to fallibilism unless abduction is an infallibly truth-functional process of inference. Definitely it is not. In all, knowledge based on perception cannot possibly be immune to the possibility of error because, Peirce argues that, it is sourced from something (perceptual judgment) that is a subconscious process and not amenable to logical criticisms (CP. 5.181). Something we cannot tell if it is true or not, how can we tell if it is mistaken or not? This is why perception cannot just be considered infallible.

Furthermore, on inference as a source of knowledge, Peirce taught that there are three distinct types of inferences, viz; deduction, induction and abduction. Deduction is commonly believed to be better candidate for infallibility. According to Houser, if Quantitative induction seems to be infallible, it is only so because it shades into deduction. However, this point is irrelevant or obsolete,

because neither one of them is a source of knowledge. According to Peirce, “Deduction explicates; Induction evaluates: that is all” (CP. 6.475). So, it would seem that every effort to bridge the gap between our pristine desires and scientific knowledge is laid by abduction alone and if it cannot give us infallibility then no other form of inference can. Why is this so? Recall that deduction (and by extension abduction) supposes or promises that if we can start from infallible premises at least we can be assured of preserving our infallibility. The problem however is that, if we can never be certain that we have not made a mistake, how then can we be certain that our line of reasoning is immune to error? (CP. 5.181; 1.181)

Given the failure of inference to afford us infallibility, we turn to revelation. According to Peirce, revelation constitutes by far the most uncertain class of truths (CP. 1.143). Peirce objected to the claim that revelation can give us infallible knowledge for three reasons: first we cannot be certain that any deliverance (or religious experiences) is inspired for that can only be ascertained by reasoning and since reasoning is liable to error we cannot ascribe infallibility to deliverance (or religious experiences). Secondly, even if deliverance (religious experiences) is inspired, we can never ascertain if the human language that conveyed them are true. After all, all inspired matter has been subject to human distortion or colouring. God might as well see reason to inspire falsity (pointing to our limitation to understand even what is directly from God). Likewise, (third reason), a truth which rest on the authority of inspiration only is of a somewhat incomprehensible nature; and we never can be sure that we rightly comprehend it (CP. 1.143).

More so, Peirce considered laws which are known to us *a priori*: the axioms of geometry, the principles of logic, the maxims of causality etc. These are ordinarily thought to be absolutely certain without exception and exact. However, Peirce argues that there is positive historic proof which suggests that innate truths are particularly uncertain and mixed up with error and as a result “*a fortiori* not without exception” (CP. 1.143). He did concede that this supposed historical proof is not infallible only that it is a strong pointer. The point Peirce is making here is that *a priori* truth cannot afford us infallible knowledge because we come to know it *a priori*, that is, we take *a priori* judgments at their own valuation, without criticism or credentials (CP. 1.143). Thus, we cannot just on the face value ascribe infallibility to such truths (even though that is what is ordinarily done) and if we cannot ascribe infallibility, there is literally no other way we can accord certainty to *a priori* truth. This, rules such truths out of the equation.



Similarly, Peirce claims that we cannot even ascribe fallibility to direct experience. This is because direct experience can neither be certain nor uncertain, it affirms nothing – it just is (CP. 1.143). There are delusions, hallucinations and even dreams, all of which could be experienced. But they do not really appear. Direct experience, for Peirce, simply means the appearance. Hence it involves no error, because it testifies to nothing but its own appearance. For the same reason, it affords no certainty. It is not exact, because it leaves much vague; although it is not inexact either, Peirce by this means, it has no false exactitude (CP. 1.143).

Finally, by looking at these various supposed sources of knowledge and discovering that, come what may, neither is prone to error; Peirce concludes that no knowledge claim can be said to be infallible. In all, all knowledge claim is susceptible to being mistaken.

### **Peirce's Fallibilism and the Problem of Vagueness**

The problem of vagueness is that which underscores a predicate that has borderline cases. For example, the predicate "is short" is vague because there seems to be no particular height at which someone or something is considered short (Sorenson, 2018). Accordingly, a predicate is said to be vague if there are borderline cases of its application that arouses faultless disagreement over whether the predicate applies. The disagreement over whether a religious sister is a "nun" is vague. This simply means that there is no sharp distinguishing factor that makes one particular thing to be the case as against being another thing.

Now Peirce's fallibilism might as well be leading us into such a problem. Peirce's fallibilism is committed to the view that there is some specific level of justification that is less conclusive but that nonetheless suffices for knowledge as it alters our cognitive situation in an important way as to constitute knowledge (CP. 1.151). That is, it is not exact, yet it can make up for knowledge. When considering for example, whether *p* is true, it can be granted how finding increasingly high levels of justification for the claim that *p* improves our cognitive situation by making it more likely that our belief is true. However, the idea that there is some specific level at which our cognitive situation transforms from not-knowing to knowing is implausible in the context of a system that only requires a less-conclusive level of justification. If knowledge is only probable, what then is the different between knowing and not-knowing? At what point can we now say a thing is known? If we cannot be certain of anything, how can we even claim knowledge?

We can illustrate this problem by thinking of probability (since according to Peirce, we only need probable justification) as measured by the use of decimals in the interval  $[0, 1]$ . In this example, a probability of 0 means that a claim is certainly false and a probability of 1 means that the claim is guaranteed to be true. Now, the problem is this, how probable must one's belief be to qualify as knowledge? Since no precise specification of the exact point has been suggested, by Peirce, let alone generally accepted. In fact, to even attempt to provide such a precise specification will lead to two difficulties: 1) any point lower than 1 seems arbitrary (why that precisely?); 2) it is not clear while achieving such level would make any difference.

This problem can further be illustrated by asking for example, when exactly does one who is bald becomes bald? Obviously, someone with 10,000 hairs is not bald and clearly someone with no hairs on his head is bald. But at what point does a person go from being 'not-bald' to 'bald'? So, must there be less than 100 hairs on his head? Less than 98? Etc. It is reasonable to suppose there is no precise point at which someone goes from being not-bald to bald: the property bald is vague. Accordingly, this form of sorites-style reasoning leads to absurd conclusions. So, it is either no one is bald or everyone is bald. Thus, if we presuppose that an increase in probability of 0.01 [for example] can never make the difference between not-knowing and knowing, then this reasoning will illustrate that there is no such thing as knowledge, since someone with conclusive justification would still lack knowledge.

### **Overarching Inconsistencies in Peirce's Theory of Fallibilism**

One of the essential issues to consider when dealing with Peirce's fallibilism is the extent to which we can apply it on our beliefs (or knowledge claims). Is our entire claim to knowledge fallible? Is all our factual, theoretical and mathematical beliefs fallible? Or are there exceptions? To be sure, Peirce's ultimate thesis is that absolute certainty about "all knowledge" is impossible.

There seems to be a disharmony in what Peirce thought regarding these questions. Peirce's general stance on fallibilism, is cumbersome to harmonize with his other acclaimed theories. For example, his notion of mathematics and mathematical truth do not always and in all instances agree with his fallibilism. In one place he would claim mathematical truths are infallible and in other places claim they are not.

Peirce considers mathematics as the science that draws necessary conclusions. Thus, it contrasts logic, which is the science of drawing necessary conclusions. Mathematics is prior to logic. Therefore, as Peirce claims, logic studies what mathematics does; and mathematics does not need the support of logic, which

supplies the theory of validity of its arguments, for those arguments are more evident than any such theory could be. Furthermore, that mathematics draws necessary conclusions means that it draws conclusions which follow necessarily from their premises and that it draws conclusions which are necessary in themselves (CP. 2. 120ff; 4. 228ff). Furthermore, according to Peirce, mathematics is not concerned with truth at all, but only with the consequences of hypotheses. Accordingly, mathematical truths are necessary because they follow necessarily from premises which are themselves necessary (CP. 3.558). Mathematical truths are hypothetical because they are idealizations, abstractions from real-world problems. Hence, mathematical truths are about hypothetical state of things and it is in that way alone that their being necessity can be explained (CP. 3.558).

Conversely, other kinds of beliefs, truths or knowledge claims are not necessary like mathematical truths because they make claim of real state of affairs (or actual state of things) and as a result they can be known to be apodictically true of an actual state of things. Whereas, even if mathematical truth happens to be drawn from hypothesis which is true of an actual state, it can never be known apodictically to be true of an actual state of things (CP. 3.558). This is the reason why mathematical truths can actually escape our faulty sources of knowledge (as has been discussed above) whereas our claim to knowledge of facts cannot.

Nonetheless, the problem here is that mathematical truth conceived and expressed in this way is infallible. It goes against the claim that we can never be absolutely sure of anything (CP. 1.147). More or less, we cannot be sure of anything yet we can be sure of mathematical truths: "It would be quite misunderstanding the doctrine of fallibilism to suppose that it means that twice two is probably not exactly four...It only says that people cannot attain absolute certainty concerning questions of fact" (CP. 1.149). Despite this, in another one of his lectures, Peirce made this statement that does not agree with his already established belief about mathematical truths:

Let me ask whether any individual here present thinks there is room for possible doubt that twice two is four? How does any individual here know but that I am a hypnotist, and that when he comes out of my influence, he may see that twice two is four is merely his distorted idea? (CP. 3.558)

Consequently, there seems to be a problem on how far Peirce admits that fallibilism can go. He punctuates at one place that our beliefs may be mistaken, that our beliefs can never be absolutely certain and we should be ready to revise our beliefs (CP. 1.155), observe that the 'beliefs' has no exception. He also alluded that we are not only fallible in our ordinary, empirical beliefs but also in our

mathematical beliefs. Yet elsewhere, he believes that mathematical truths are necessary and this necessity obviates the possibility of our being mistaken in our mathematical beliefs; for when for example in *Collected Papers*, 7.108 (1892) and 1.248 (1902) he avers that fallibilism does protract even to mathematics he is decoyed to compromise his consignment to the necessity of mathematical truths, and to point that mathematical inference is, after all, only probable, and when in another place, *Collected Paper* 1.149 (1897), he accentuates the necessary temperament of mathematical truths, he likewise points that we are fallible only in our factual beliefs.

This disagreement is also observed when we he conceptualizes contingent truth. That is, when he conceded that ‘all’ our beliefs are fallible and yet turn to the other side and say contingent truth (e.g., “I am in shock”) are necessary and cannot be fallible or that there are some truths that are necessary. The only way to solve this problem is to from the onset claim that some beliefs are fallible while some are infallible. In this way, the only concern will be discerning and distinguishing those truths that are fallible from those that are not. However, this is not Peirce’s avowal. In fact, he was radical to the extent that he also stresses that his doctrine of fallibilism is also fallible (CP. 1.151).

The problem here is that, why the hesitance from Peirce in both granting fallibilism and the necessity of mathematical truths? Why can they not be made compatible? Susan Haack (1979) addresses this question well: “why should one not allow that we may hold false mathematical beliefs, and at the same time grant that mathematical truths are necessarily true?” To be sure, if mathematical truths are necessarily true, it follows, that if we hold false mathematical beliefs, those beliefs are false necessarily.

Peirce needed not to have had scruples, in any case about whether to ascribe fallibility to mathematical truths. Even there be, truths that are mathematically and logically necessary, they are independent to the possibility that we might erroneously conceive them to be untrue. Put in another way, we can dissimilate the logical or objective certainty of necessary propositions from our psychological or subjective certainty in conceiving those propositions. Hence a fallibilist in agreement with Peirce’s line of thought can actually concede that unsullied mathematical beliefs are objectively certain but would reject that it is subjectively certain (Haack, 1979). This is because we can conceive them wrongly.

From the beginning of this section, we have been seeing the shortcomings of or inconsistencies in Peirce’s fallibilism. These shortcomings [can] result in doubt about the entire edifice. Eventually, in analyzing Peirce’s fallibilism we cannot

fail to realize the hold of uncertainty in our knowledge acquisition. The mathematical dilemma I treated in this section illustrates typically the hold uncertainty have over our methods of inquiry. Here we are looking at the panacea given to us by Peirce (fallibilism) to manage the overarching influence of uncertainty, yet even in this attempt there appears to be shortcomings that would lead us to back our drawing board in dealing with uncertainty. In fact, this is an obnoxious epistemic problem. However, it becomes complicated when we consider that it is as a result of doubt(uncertainty) that we can only hope to arrive at a better or fine-tuned version of Peirce's fallibilism as we saw in the effort to reconcile Peirce's fallibilism and the necessity of mathematical truth.

Nevertheless, if there was no reason to doubt Peirce's fallibilism, there would not be a need for fine-tuning. Doubt seems to only keep this tedious task of inquiry going. So, is inquiry needless because of doubt that could result from it? Should we entangle ourselves with doubt or close the door to inquiry? These questions and others like them are what we hope to answer in the next sections. In all, not doubting seems to be an impediment to inquiry as much as Peirce's decried cocksureness (CP. 1. 13-14).

### **Doubt and Hope in Peirce's Fallibilism**

In the heart of Peirce's pragmatic theory of enquiry (fallibilism) lies doubt and hope. Doubt is inevitable; doubt is understandable. Doubt, uncertainty or disbelief is not just a disposition compelled on us by ill-fated or calamitous limitations of human cognition and its corresponding processes. Rather, according to Peirce, real inquiry is the only fountain of Peircean knowledge; and we only inquire when we experience authentic doubt (CP. 3.558). Thus, doubt about one's own beliefs is the power plant under the cowl of philosophical investigation. It necessitates our knowledge generation.

Furthermore, Cooke, emphasizing Peirce's concerns for doubt, approvingly and repeatedly asserts that all inquiry must be actuated by actual doubts that some humans really hold:

The irritation of doubt...results in a suspension of the individual's previously held habit of action. Since the doubt is an irritation and since it causes a suspension of action, the individual works to rid herself of the doubt through inquiry. The doubt motivates the inquiry and gives the inquiry its purpose. The particular purpose of each inquiry is dictated by the particular doubt which has risen for the individual (2006)

This doubt is different from Cartesian doubt because it is real. It is necessitated by actual distrust of the present state of affairs and by errors that had already

been observed from such state of affairs (or beliefs). Cartesian doubt on the other, hand is merely a systematic doubt (or as it is commonly known, paper doubt). It is a framed doubt because even if there is actually no cause to doubt, we still have to doubt. Accordingly, while Peirce's doubt is brought about by perceived failures of the present beliefs, Cartesian doubt incepts by identifying what can be doubted in the present beliefs. Therefore, while the doubt needed in Peirce's fallibilism is extemporaneous, that in Cartesian doubt is planned and anticipated.

Hence, genuine doubt gives rise to the purpose of an inquiry. If this is true, then the purpose of Peirce's fallibilism must have been prompted by some particular doubt. However, it is warranted that we ask: what was Peirce's purpose of inquiry? What kind of authentic doubt really prompted him to spend time building his fallibilist doctrines in the philosophy of knowing? A mere reconstruction of his thesis will leave these questions unanswered because it is more interested in the context of justification for his doctrine. Context discovery on the other hand, which ought to provide answers for these questions, will lead us into pure speculations; except Peirce tells us himself what prompted his inquiry. In all, it seems we will never know and perhaps we will keep being challenged by doubt.

At this juncture, we can now turn to the idea of Hope. Hope in Peirce's philosophy, is some sort of epistemological disposition adopted to meliorate the overarching effects of doubt and error in our quest for knowledge (CP. 1.150; 2.654; 2.655). This is corroborated by the "orthodox definition" of hope, which defines it in terms of a wish or desire for an outcome and a belief concerning the outcome's possibility (Martin, 2013; Meirav, 2009).<sup>2</sup> Similarly, it is expressed as: "A hopes that *p*" is true iff "A wishes that *p*, and A thinks that *p* has some degree of probability, however small" is true (Day, 1969).

What role might this play in Peirce's fallibilism? In Peirce, despite the fact that thinkers are motivated by their own sense of fallibility, they are also encouraged by the "hope" in the possibility that we have knowledge and can arrive at it (CP. 1.150; 2.654; 2.655). Therefore, hope rather than truth is the proper goal of inquiry. This is because, we cannot claim the truth when it is possible that it might change in the future, rather inquiry leads us to that position where we have hope that is rational enough to help us accept that our belief at the moment is true (CP. 1.150; 2.654; 2.655).

Ultimately, in Peirce's fallibilism, doubts and errors make it unlikely that we know; hope on the other hand, gives the reason that what we already have can

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<sup>2</sup> **NOTE:** These scholars share Peirce's belief that "hope" has epistemic standard. That is, hope can be rational as opposed the popular belief that it is not.

pass for knowledge (CP. 1.150; 2.654; 2.655). Hope is an epistemic virtue that inquirers have to imbibe in the face of the challenges of doubt. It is the only commensurate and compatible catholicon suited for the problem at hand. For Peirce and all Peircean fallibilists and probably contemporary fallibilists of all kinds, hope is a principle of genuine inquiry and it is the first principle against uncertainty in genuine inquiry. We only hope that the knowledge at hand is right; that the basic suppositions upon which our inquiry is built is right despite the ultimate challenges of doubt/uncertainty.

### **Peirce's Community of enquirers and the Self Corrective Process**

An essential element towards constructing Peirce's fallibilism and its eventual comprehension is the salient role and disposition of the community of inquirers. So, if knowledge is not a onetime 'get and grab' enterprise as we saw when we were exposing Peirce's fallibilism then it falls to this community to always keep attempting to dispel uncertainty.

Peirce's community of inquirers is the scientific community whose job it is to investigate matters of fact which impress on us. The members of this community perpetuate inquiry and determine the direction our quest for knowledge should take. For Peirce, the quest for knowledge is communitarian. It is the collective and co-operative activity of all those whose lives are animated by the desire to find out the truth, whose lives are animated by "an impulse to penetrate into the reason of things" (CP.1.44; 6.15). The members of this community were to be Peirce's co-inquirers who are animated by rueful sense of their own inclination to error. They are the ones who experience genuine doubt and hope that their present working thesis is true.

The idea of fallibilism is hinged on the activities (investigations) of the members of this community. Since, knowledge grows, this community ensures it. The mistakes of the community at one epoch are corrected by the ingenuity of the members of the community at another epoch. For this reason, Peirce, thinks that the fallibility of the community in one epoch does not encumber scientific progress. Hence, the scientific community is not limited but it also extends to all races of peoples who can come into immediate intellectual relation (CP. 2.654; 1.150).

Underlying these whole community inquiring processes is the self-corrective process of ordinary scientific reasoning: "the more one learns the more one corrects one's presuppositions" (CP. 1.244). Peirce also claims that this is not only true for scientific methodology, but that it is the way thinking works generally.

William Davis (1972), observes that if this is true, then philosophical skepticism will be rendered futile, so will the ratio-deductive method, and as a result inductive or 'scientific' method will be confirmed.

Peirce in responding to how all thoughts correct themselves given that deduction appears not to be self-corrective at all, but seems to lead further away from the truth, gives a diagrammatic example:

Imagine a column of figures to be added. No one adding them together, unless he is very accustomed to doing sums, will be absolutely sure that the result is accurate, and, if accuracy is very important, he will want to add it up a couple of times or use one of the systems designed to check addition (CP. 1. 248).

However, what in the world is this but taking a vote, a sample? This, Davis claims, is actually a form of induction. The same thing applies to any deductive chain. In a geometrical proof one equally feels compelled to go back and check the reasoning. To be sure, a deduction is theoretically infallible [recall the arguments above], but this is never anything more than a theoretical infallibility. In practice, error may creep into even the simplest deduction - in fact errors are every so often found in mathematical proofs of the most rigorous kind which had been thought accurate for generations (CP. 1. 248). - [this argument again]. Accordingly, the whole line of reasoning, as Peirce would have us think, is strengthened by all the arguments Peirce used in the *Faculties* to illustrate that all reasoning must be fallible because of the fact that thinking is a process in time.

What then is Peirce's contention that the reasoning process, the more it is sought, tends not only to correct its conclusions, but also even the premises from which it incepts. Peirce on this note remarks:

The theory of Aristotle is that a necessary conclusion is just equally as certain as its premises, while a probable conclusion is somewhat less so. Hence, he was driven to his strange distinction between what is better known to Nature and what is better known to us. But where every probable inference less certain than its premises, science, which piles inference upon inference, often quite deeply, would soon be in a bad way. Every astronomer, however, is familiar with the fact that the catalogue place of a fundamental star, which is the result of elaborate reasoning, is far more accurate than any of the observations from which it was deduced (CP. 5.575).

Not only this, Peirce at several times asserts that not only can reason correct the premises from which it incepts, but reason can also perfect its techniques. Peirce



further gives an example of even a mathematical process into which random errors may be incurred, but which tends to correct itself the longer it is pursued. He conceded that the process of correcting premises is not, “so sure, or at least so expeditious,” in a deductive chain as in an inductive argument but he still retains that even deduction is self-corrective. This whole process can be deduced from the examples he gave by the active participation of the members of the scientific community who would constantly and persistently subject their reasoning processes to careful criticisms. From this persistent, careful subjection comes certainty (if we could say - provisionally). Hence, “the certainty of mathematical reasoning, however, lies in this, that once an error is suspected, the whole world is speedily in accord about it” (CP. 5.577).

In sum, the whole idea appears to be that wherever one begins to reason, no matter if on an entirely false premise, the process of continuing to think long enough will slowly begin to identify and erase error as a self-consistent or distinct picture begins to emerge. This is off course, happening under the axiomatic maxim of the scientific method, which canonizes that one continually checks one’s reasoning against experience, and not dictate to the world on the assumption that man’s reasoning power is so strong that it can go unhindered from truth to truth. Therefore, according to Davis (1972), it does not matter how one begins to deal with a problem, whether for fear of not knowing how to start or that of starting from a wrong foot, all that matters is that one begins the process, because reasoning tends to grow and correct itself as it goes along. After all, Peirce says that the phenomenon of self-correction “is a property so deeply saturating [inquiry’s] inmost nature that it may truly be said that there is but one thing needful for learning the truth, and that is a hearty and active desire to learn what is true (CP. 5. 582).

## **Conclusion**

In this paper, I attempted to canvass the structures that constitutes Peirce’s fallibilism and by doing so identified some problems with his theory. The chapter has shown that Peirce’s claim that knowledge need not be exact arouses the problem of vagueness about the status of the justification needed for it. Furthermore, I also looked at the distinguishing element of Peirce’s fallibilism, and that is nothing more than a contrite approach to learning in the face of all the limitations of our cognitive processes, methods and instruments. Consequently, the paper has been able to show that:

1. As an epistemological thesis, fallibilism recognizes that no matter how strong our belief tends to be and no matter what it is about, there is the

possibility that we might be erroneous or wrong in holding them. Accordingly, as an epistemological recommendation, fallibilism, urges and advocates that we keep building on what we already think we know, we should be building on what we already hold, we should learn and learning is continuous.

2. Knowledge acquisition is an overarching process that calls for somewhat humility; that results from the fact that we might always and everywhere be wrong. The main point for Peirce is that the way of sincere inquiry should never be blocked.
3. There is no certain or infallible claim to knowledge because our supposed sources of knowledge are liable to errors.

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