

Questions Concerning Certain Faculties Claimed for Man

In 1868 “Questions Concerning Certain Faculties Claimed for Man” (QCFC) was published in *Journal of Speculative Philosophy* (JSP). This paper ultimately became a part of a series of three articles published in the JSP by Peirce. QCFC is organized a set of questions about various cognitive capacities (or powers) human beings claim to have.

While Peirce’s motivation for writing QCFC was to ultimately prove the objective validity of the laws of logic, we might see the results of QCFC in a different way. That is, people often claim to know various propositions but how do people come to know anything at all? What faculties, powers, abilities, or capacities do human beings have that allow them to have knowledge about the world, themselves, or their inner lives?

QCFC can be understood as an investigation into the cognitive powers we have as human beings.

0.1 Inference or intuition?

The first question Peirce considers is as follows:

Whether by the simple contemplation of a cognition, independently of any previous knowledge and without reasoning from signs, we are enabled rightly to judge whether that cognition has been determined by previous cognition or whether it refers immediately to its object. - EP1:11

Here Peirce is discussing the status of a cognition or an idea. Peirce assumes that ideas are always about something. That is, they are always about (or represent) an object.

Example 1 *The object of my idea of a blue balloon is a blue balloon.*

Ideas are classified in two different way, both corresponding to how the idea is determined.

First, some ideas are the result of **inference**. An idea is determined by an inference if and only if it is determined by prior ideas. Many of our ideas are determined by inferences. Our ideas about global warming, about politics, about health, about science, and so on are often taught to us and so we reason from the testimony of others to conclusions about these topics. That is, they have the following structure:

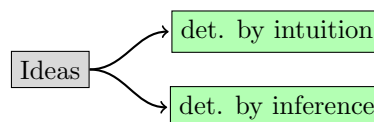
- P1: Dr. Smith told me that my blood results indicate I have high cholesterol.

- P2: Dr. Smith is a doctor, who is trained, and the test is reliable for determining high cholesterol.
- C: Therefore, I have high cholesterol.

Many of our judgments about what we perceive with our senses are also determined by prior ideas and so the result of an inference. For example, suppose I have the idea that *there is blue balloon floating in the air*. Here I am reasoning from sensory ideas to the judgment that there is a blue balloon.

- P1: I see a blue thing in the sky
- P2: That blue thing is an oval and is moving upward.
- P3: The object I am viewing is consistent with being a blue balloon.
- C: Therefore, there is blue balloon floating in the air

Second, some ideas are said to be the result of an intuition. An idea is determined by an intuition if and only if it is determined directly by the something *outside of consciousness* (not a prior idea in the mind) or what Peirce calls a *transcendental object* (EP1:11). What exactly the object is that determines an idea in the case of an intuition is left open. Since the object is out of consciousness, it could be real objects completely independent of our mind determining these ideas or an all-knowing, all-powerful God.



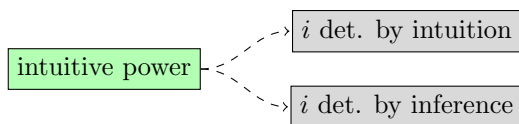
One way that Peirce characterizes intuitions is using the argumentative setting. He remarks that intuitions are *premises* that are not themselves a *conclusion*.

Example 2 *Suppose there are only two possible arguments: A1 and A2. A1 and A2 only consists of three propositions. In the case of A1, its propositions are P1, P2, P3 where P3 is the conclusion. In the case of A2, its propositions are P1, P4, and P2 where P2 is the conclusion. Note that while P2 is a premise in A1, it is the conclusion in A2. And so it is a premise that is itself a conclusion, and so not an intuition. In contrast, P1 is a premise that is not itself a conclusion, and so it would be an intuition.*

Now it is important to note that Peirce is not asking whether our ideas are determined by intuitions or inferences. His question is for any idea *i*, how do we know whether *i* is determined by an intuition or an inference. Do we know it intuitively or inferentially? In other words, his question about intuitions and

inferences is whether or not we have an intuitive power that allows us to determine whether for any idea i that i is determined by an intuition or determined by an inference.

For example, suppose I have an idea i . That i may be determined by an intuition or it may be determined by an inference. How do I know how i was determined? Well, some may contend that we know *intuitively*. That is, we have an intuitive power that allows us to determine which ideas are determined by intuitions and which are determined by inferences. Others may contend that there is no reason to believe that we have such a power.



Peirce denies that we have an intuitive power to determine whether our ideas are intuitions or inferences. He writes:

There is no evidence that we have this faculty, except that we seem to *feel* that we have it. – EP1:12

Now before Peirce argues that we lack such an intuitive power, he offers a kind of abstract history of the debate over intuitions. He notes that historically, individuals have debated which cognitions are intuitive. In the middle ages, he contends that ideas that were two sources of knowledge: *reason* and *external authority* (e.g. the pope). In this time, ideas determined by the latter were taken to be intuitive.

the credibility of authority was regarded by men of that time simply as an ultimate premises, as a cognition not determined by a previous cognition of the same object, or, in our terms, as an intuition – EP1:13

In contrast to the middle ages, in our time the two sources of knowledge are *reason* and what Peirce refers to as an *internal authority*. This is the *feeling* that we have an intuitive power. And so, Peirce contemplates that just as we now doubt the legitimacy of *external authority* might we come to doubt the legitimacy of the *internal authority*.

0.1.1 The argument against a second-order power of intuition

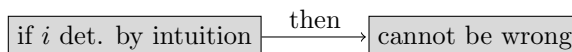
Peirce rejects that we have a second-order intuitive power to determine whether an idea is determined by an intuition or determined by inference from observation.

Theorem 1 *No power of intuition We have no second-order intuitive power to determine if an idea i is determined by an intuition or by an inference.*

Peirce's proof of this claim will involve an assumption. Namely, that if we have this second-order intuitive power, then our knowledge from this faculty is *infallible*. That is, if I have an intuitive power to determine whether i is determined by an intuition or an inference, then it is impossible for me to be wrong. For example, suppose I have an idea that *there is a red balloon*.

Assuming I have a second-order power of intuition and this idea to be determined by an intuition, then I cannot be wrong about this judgment.

This assumption gives us a way to test whether or not we have a power of intuition. Namely if a second-order power of intuition entails that we cannot be wrong about certain judgments, then Peirce can point to cases where (i) people claim to have such a power but (ii) the judgments that stem from this power are flawed.



Peirce provides a wide variety of cases to support the view that we have no second-order power of intuition. We will only consider some of these cases.

First, let's consider cases where people have judgments about **what they have seen** and **what they have inferred**. That is, suppose a subject S makes following judgment:

- S saw P

The question then is whether we have an intuitive power for determining whether *I saw P* is determined by an intuition or an inference. Now if we have such an intuitive power and this intuitive power is infallible (**A1**), then we should never confuse cases where *S saw P* with *S inferred P*. In other words, if we intuit we saw P, then it is certain that we saw P rather than inferred P.

But Peirce contends that this is not the case since people commonly confuse what they've seen from what they've inferred. Peirce considers how witnesses to crimes often claim to have seen an event but actually only inferred it. And, he contends that this is most evident with respect to the testimony of individuals watching magic tricks.

Example 3 (Chinese rings) *Peirce refers to the case of the Chinese rings. Let's consider a variation of this trick here: <https://www.youtube.com/watch?v=pAKDutWykiA>. In this case, an individual may claim to intuitively know (because they saw) that the magician took two unbroken metal rings and put these two rings together. But, according to Peirce, this judgment is actually a product of inference since they did not actually see that the rings were broken (they simply inferred this from looking at the rings or watching the magician move the rings around). Here is how the trick works: <https://www.youtube.com/watch?v=J24UZg0rGBs> and here <https://www.youtube.com/watch?v=N5Gn9-abjqM>.*

From these sorts of examples, Peirce draws the conclusion that evidence does not support the feeling that we have an intuitive power to distinguish *what we have seen* from *what we have inferred*:

This certainly seems to show that it is not always very easy to distinguish between a premise and a conclusion, that we have no infallible power of doing so, and that in fact our only security in difficult cases is in some signs from which we can infer that a given fact must have been seen or must have been inferred. – EP1:14

A **second** example concerns **dreams**. Peirce draws on dreams in two ways. First, our inability to distinguish what we dreamt from our interpretation of what we dreamt supports the idea that we have no intuitive power to determine whether some idea about our dream is the result of an intuition or the result of an inference. Second, Peirce notes that our ideas when we are dreaming are determined by “the laws of the association of ideas” and prior ideas (that is, it isn’t we are encountering unicorns or are having the experience of flying when we are dreaming). But our ideas in our dreams are just like our ideas when we are awake. And so, if the ideas in our dreams are just like our ideas when we are awake, and the former are determined by inference, then there is reason to doubt that we know when our waking ideas are determined by intuition.

A **third** example involves **children**. Peirce contends that children pretty much have the same perceptive faculties as grown individuals (sight, taste, smell, consciousness). The implication then is that the second-order power of intuition should be present in them as well. But Peirce contends that when children are questioned about *how* they know something (e.g. the language they speak), they will sometimes contend that they did not learn it but *always knew it*. Of course, this is incorrect and so **A1** is falsified.

A **fourth** example involves determining the texture of a fabric of cloth by *feeling* the fabric. Peirce contends that we might contend that a fabric is rough or soft or smooth simply by feeling the fabric. But again, Peirce remarks that the idea that a fabric is smooth is not necessarily known via intuition. Instead, we learn that a fabric is smooth through an act of inference, namely by moving our hand on the fabric, then drawing a conclusion based on a comparison of different sensations.

A **fifth** example involves space perception. Here Peirce considers three different related examples. The first involves our perception of depth. Originally, it was thought that our perception of the third dimension of space was intuited. However, this dimension is actually inferred (this is a complex point but the short of it is that depth perception requires synthesizing information from both eyes, viz., binocular cues). The second involves our idea that what we immediately see with one eye closed is a continuous oval. This idea might be said to be the result of an intuition. But, Peirce contends that the discovery of the blind spot refutes this since the contents of our vision is inferred from the existence of the blind spot to be a ring. A third involves the idea that what we see is a two-dimensional continuous surface. While this might be assumed to be intuited, it is not since it is incompatible with the physiology of our eye. Namely, our eye is not composed of an unbroken continuous surface but instead of numerous, very small retinal nerve cells. So, Peirce contends we infer that what we actually see are innumerable small dots that we “fill in”. Thus, the idea that we see an unbroken continuous surface is the result of an inference rather than an intuition.

From the above examples (and others we did not consider), Peirce concludes that we have no intuitive power to determine whether an idea is intuited or inferred (determined by prior ideas).

Discussion 1 *Peirce offers up several examples of how people commonly confuse what they perceive with what they infer (e.g. magic tricks, dreams, etc.). Can you think of some of your own examples where people think they saw X but they really inferred X ?*

Discussion 2 *Suppose Peirce is right that we do often confuse seeing X with inferring X from some sensation? What does this imply about people’s claims to know X ? How should we evaluate the testimony of people when they claim to have seen X ?*

0.2 Intuitive self-consciousness

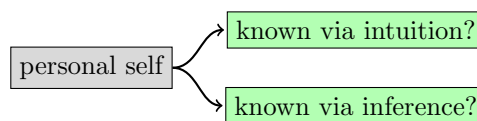
The next question that Peirce considers is whether or not we have an **intuitive self-consciousness**. Peirce asserts that we lack an intuitive self-consciousness.

Theorem 2 *There is no intuitive self-consciousness.*

Definition 1 (consciousness) *By “consciousness”, Peirce means simply an awareness of an object as represented.*

Definition 2 (self-consciousness) *By “self-consciousness” Peirce means an awareness or recognition of our personal or private self.*

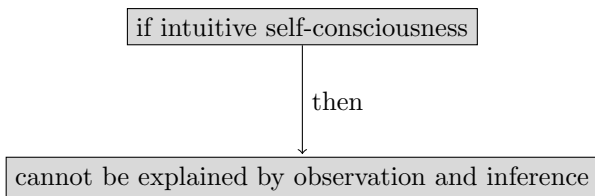
And so, if we assume that we have a private self (that we as a personal self exists), the question becomes whether we know this by way of an intuitive power or through inference.



Peirce contends that it is **not** self-evident that the personal self is known by intuition. This is because (as he has argued) we lack any intuitive power to distinguish ideas determined by intuition from those determined by inference. Thus, he contends, whether or not we have such a capacity is “to be determined upon evidence” (EP1:18). What then does the evidence suggest with respect to the whether our private selves are known via intuition?

In contrast to his denial of that we have a second-order power of intuition, Peirce’s argument here has a different structure. Namely, Peirce assumes that given two different powers (or faculties) P_1 and P_2 , if the existence of the first power P_1 is uncontroversial whereas the existence of the second power P_2 is not, then we are only required to accept the existence of P_2 if it is necessary to explain facts that cannot be explained by P_1 . This gives us a way to test the claim that we have an a power of intuitive self-consciousness for such a power exists if it is *necessary* to explain certain facts.

In addition, we have a way of testing arguments as to whether we have a power of intuitive self-consciousness. Namely, we evaluate whether our knowledge of the personal self can be explained through a simpler, better-known power (e.g. observation and inference).



The structure of Peirce’s argument against an intuitive self-consciousness becomes straightforward.

1. he points out some conflicting evidence concerning whether children are self-conscious.
2. he provides an account of the origin of self-consciousness in children and how this origin is the result of faculties known to exist (observation and inference) rather than the dubitable faculty of intuition.
3. he considers and refutes an argument supporting the existence of the faculty of intuitive self-consciousness.

In what follows, each of these components of Peirce’s argument against the faculty of intuitive self-consciousness is considered.

First, Peirce points out that there is conflicting evidence about when children become self-conscious. On the one hand, children don’t tend to begin to use the first-person pronoun “I” until they have acquired a variety of other pieces of language. This suggests that they lack a self-consciousness or their awareness of their private self is imperfect. On the other hand, before children use the first-person pronoun, they are capable of a wide variety of intellectual tasks, e.g. movement, speech, the trigonometry of vision, etc. Given the breadth and sophistication of their intellectual powers, Peirce writes that “[t]here is no reason to question a similar degree of thought in reference to themselves” (EP1:19).

In short, the available evidence concerning children does not clearly point one way or another concerning whether they are intuitively aware of their private self.

Second, Peirce offers an account of the origin of self-consciousness in children that is the result of observation and inference process (A2). Peirce has much to say concerning the origin of the personal self, especially regarding the role the body plays in the process. However, we will focus on the latter part of his account. Once children are able to converse, Peirce notes that they begin to form a connection between what people say about things and the facts themselves. Sometimes, however, children will be told that a stove is hot, but say that it is not. After touching the stove, however, they find that the testimony was right all along and so become aware of ignorance or error. They then contend that there must be a thing in which this ignorance or error belongs and so posit the existence of their personal self in which the error exists. Peirce writes “[i]n short, *error* appears, and it can be explained only by supposing a *self* which is fallible” (EP1:20).

Peirce provides a rather nice summary of this second part of his argument when he writes the following:

Now, the theory which, for the sake of perspicuity, has thus been stated in a specific form, may be summed

up as follows: At the age at which we know children to be self-conscious, we know that they have been made aware of ignorance and error; and we know them to possess at that age powers of understanding sufficient to enable them then to infer from ignorance and error their own existence. Thus we find that known faculties, acting under conditions known to exist, would rise to self-consciousness (EP1:20).

Third, the final part of Peirce’s argument involves considering a potential argument in support of intuitive self-consciousness. The argument, in short, is as follows:

- P1 We are more certain of our private self than any other fact
- P2 A conclusion can never be more certain than the premises it relies upon
- C Therefore, our knowledge of our private self cannot be inferred and must be known by an intuitive power.

Peirce accepts **P1** but denies **P2**, contending that it is “founded on an exploded theory of logic” (EP1:20). Peirce’s explanation of this is that while a conclusion can never be more certain than a *single* fact that supports it, when the conclusion is supported by a multitude of facts, it can be more certain than *any* single fact that supports it.

Example 4 (testimony from witnesses) *Consider a dozen individuals independently testify that Tek was at a certain location. Peirce contends that the conclusion that Tek was at a certain location is more likely than any single one of these individuals is to be believed.*

Example 5 (facts and self) *Many facts seem to support that we have a private self. Thus, similar to the case of the witnesses, the fact that we have a private self is more certain than any of the facts that support it.*

Peirce thus concludes that there is “no necessity” in supposing the existence of a power of intuitive self-consciousness. Our knowledge of our private self can, instead, be accounted for in a less controversial way, namely through a process of observation and inference.

Discussion 3 *Peirce says that it isn’t obvious that we have a direct perception of our personal selves (no intuitive self-consciousness). Instead, it is possible that we come to know that we exist by inferring that we exist. What does this imply about a baby’s sense of self (very young children)?*

0.3 Subjective elements of ideas

The next question that Peirce considers is whether we have an intuitive power to distinguish various subjective elements of our ideas. Peirce is clear that we lack such a power.

Theorem 3 *We have no intuitive power to distinguish various subjective elements of our ideas*

To use more modern language (but also to narrow the discussion initially), Peirce is asking whether we have an intuitive power to determine our propositional attitudes.

Definition 3 (propositional attitude) *A propositional attitude is a mental state or disposition held by a subject toward a proposition.*

Example 6 *If P is a proposition, some propositional attitudes include believing P , doubting P , imagining P , dreaming P , conceiving P , and knowing P .*

Peirce thus contends that we do not necessarily know our propositional attitudes intuitively. It may be the case that (i) I do not know whether I doubt a proposition P or (ii) I know that I doubt P but I know it through observation and inference rather than through an intuitive power.

However, with the above said, Peirce does not mean to restrict the discussion to propositional attitudes. Instead, his concern are with various “modes of consciousness” or the “subjective elements” of our ideas. That is, propositional attitudes involve a mental attitude to something that can be true or false (a proposition) whereas Peirce’s concern refers to a mental attitude toward any idea.

Peirce begins his discussion of whether or not we have such an intuitive power by contending that, at first glance, it appears that there is a tremendous amount of evidence in support of such a power. The argument runs as follows:

- P1: There is a great difference between certain propositional attitudes, e.g. *believing P* and *doubting P* or *dreaming P* and *experiencing P* .
- P2: If there were no intuitive power to distinguish propositional attitudes, then there would be no way to recognize this difference.
- C: Therefore, an intuitive power to determine propositional attitudes must exist.

The crucial premise in this argument is P2. Peirce provides some support for P2 when he writes the following:

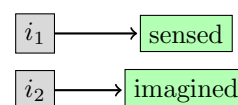
if we had no intuitive power of distinguishing between what we believe and what we merely conceive, we never, it would seem, could in any way distinguish them; since if we did so by reasoning, the question would arise whether the argument itself was believed or conceived, and this must be answered before the conclusion could have any force. And thus there would be a *regressus ad infinitum*. Besides, if we do not know that we believe, then, from the nature of the case, we do not believe.

In responding to this argument, Peirce points out that it is important to be clear on the type of argument that is being put forward. The argument is an inference to the best explanation. The argument is not contending that we intuitively know that we have an intuitive power for distinguishing propositional attitudes. Peirce has already argued against the idea that such a position is the case (A1). Instead, it is arguing that we must *suppose* we have an intuitive power in order to explain how we know the difference between *dreaming P* and *experiencing P* . With this in mind, the argument thus rests on whether or not it is possible to explain our capacity to recognize the difference

between propositional attitudes without positing an intuitive power. Peirce thus aims to provide such an explanation.

Peirce rejects P2. He contends that the differences in the objects of our consciousness itself are sufficient for accounting for the difference between various subjective dispositions. In other words, Peirce contends that citing P1 (that there are differences in our propositional attitudes) does not in the least bit support the existence of an intuitive power.

To see this more clearly, suppose there are two ideas i_1 and i_2 . Further, suppose that i_1 has the qualities commonly associated with being sensed: vibrant, detailed, vivid, lively, etc., and i_2 has the qualities commonly associated with being imagined: dim, unclear, and weak in its details and force, etc. According to Peirce, the fact that we can reason from the *differences in these ideas* to a difference in whether we sensed or imagined them.



In other words, the mere fact that there are differences in the objective contents of the ideas is enough to suggest that there is a difference between sensing an object and imagining it. If some content came to us in a particularly vibrant and lively way, we would contend that we sensed it rather than imagined it. Or, if it came to us in a dim and broken way, we would contend that we had imagined it rather than sensed it. Thus, the differences in the content of our ideas does not point toward an intuitive faculty.

Next, Peirce considers how we might account for the difference between *believing P* and *conceiving P* might be accounted for without positing an intuitive power. Peirce contends that there are two different ways of defining belief, and so at least two meanings of *believing P* . The first is the sensational sense of belief.

Definition 4 (sensational belief) *S believes P if and only if S judges P to be true and this judgment is accompanied by a feeling of conviction.*

The second is the active sense of belief.

Definition 5 (active belief) *S believes P if and only if S judges P to be true and S is willing to act as though P is true.*

Peirce contends that we can determine whether S believes P or merely conceives P simply by observation. If S believes P rather than merely conceives P , then S ’s judgment that P is accompanied by a feeling of conviction (if taken in the sensational sense) or the willingness to act as though P is the case (if taken in the active sense). In either case, it is not necessary to posit an intuitive power to account for the difference between *believing P* and *conceiving P* . Rather, we only need to reason from an observation of external facts.

Discussion 4 *Peirce contends that we don’t have an intuitive power to distinguish subjective elements of our cognition. This means that we don’t directly know that we believe or dream or*

doubt some proposition P . Instead, we infer these subjective elements from outward facts, e.g. I know that I believe P from my behavior concerning P . We might reject this view as it seems to conflict with our private experience, e.g. I know that I believe P because I look into my inner self and see it is true. Is Peirce's view convincing? Also, what does Peirce's view imply? Let's say John says he believes P or **doubts P** , what would you need to know in order to determine if this is true? Let's say John says he knows P , what would this imply?

0.4 Introspection

We commonly distinguish between internal and external facts. Internal facts are generally facts **about one's mind**, e.g. what one is experiencing, what one feels, emotions, etc. External facts are facts about objects in the world. With this distinction made, Peirce's next question is whether it is necessary to posit a faculty of introspection to account for our knowledge of the internal world. More plainly, how do we know the contents of our own minds, by introspection or through reasoning from external facts?

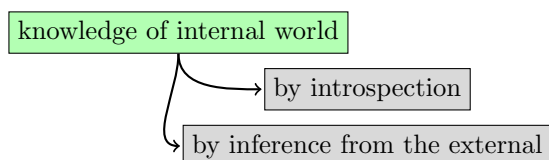
Peirce will reject that we have a faculty of introspection and instead our knowledge of internal facts is "derived from external observation" (EP1:22). However, to get clear on his argument, it is necessary to define what Peirce means by "introspection".

Definition 6 (introspection) S has an introspection of S if and only if S has a direct perception of S 's internal world. It might be defined by an examination of own's mental properties, states, features, or content without reliance on external observation

With respect to introspection:

- if S has a direct perception of S 's internal world that direct perception need not be recognized as internal
- introspection here is not the confined to intuitions of the internal world but instead *any knowledge* of the internal world that is not derived from observation of the external world.

The question then Peirce raises is whether we have a power to directing perceive (introspect) facts about our own mind *or* if the way we learn about our mind is by drawing inferences from observations about the external world.



Perhaps what we know best about our own minds (internal facts) are our **emotions**. We know when are angry, sad, happy, and so on. Let's call these **emotional predicates**. The question then becomes how do we know that any of these emotional predicates apply to us at a given moment in time?

First, Peirce contends that it is not self-evident that we have the power of introspection. Peirce likely asserts this given that he has already shown that there is reason to doubt that we have a power of intuition to determine whether an idea is determined by an intuition or inference. This does not mean, however, that there we have no power of introspection because introspection need not be intuitive. Nevertheless, given that we cannot simply intuit this power of introspection, Peirce contends that the only argument for introspection would involve **A2**. He writes: "[t]he power, if it exists, must be known by the circumstance that the facts cannot be explained without it" (EP1:23).

Second, Peirce contends that we can explain our knowledge of internal facts without appealing to a faculty of introspection. He contends that when we are angry, sad, happy, and so on, we actually reason from prior ideas concerning external facts. The structure of the reasoning is as follows:

- P1: Object x is P
- P2: x makes me Y .
- C: Therefore, I am Y .

It should be noted that the conclusion "I am Y " is the result of an inference from an external fact P1 along with a claim about how x effects the agent. Let's consider an example involving *anger*, although we might substitute a variety of different emotional predicates.

Example 7 (I am angry) Suppose Tek says "I am angry". Tek can be said to reason from " x is bad, vile, abominable" to " x makes me angry" to "I am angry".

Note 1 Peirce further the sense of beauty, moral sense, the sense of willing, volition, and abstraction (see EP1:23).

Peirce thus concludes:

It appears, therefore, that there is no reason for supposing a power of introspection; and, consequently, the only way of investigating a psychological question is by inference from external facts.

Theorem 4 We have no capacity of introspection.

One consequence of there being no capacity of introspection is that all inner facts (including our own thoughts) are known through inference from external facts.

Corollary 1 Thought can only be known by inference from external facts.

Discussion 5 Peirce contends that we have no capacity of introspection. This means that no power that allows us to simply examine the contents of our minds. Instead, our knowledge about our minds comes from observation and inference of things in the external world. For example, John knows he is angry by observing some external fact (e.g. behavior) and then inferring that he is angry. How convincing is this view?

Discussion 6 T4: Let's say Liz and Tek are in an argument. Liz tells Tek that he is angry and Tek says he is not. He utters "you don't know how I feel". If Peirce is correct, then Tek cannot know this by an inner examination of his mind. He instead knows it by way of inference from external facts. How might

Liz argue that Tek is, in fact, angry? How can we, at the same time, preserve the common sense view that people know their mental states better than strangers?

0.5 Thought without signs

The next question Peirce considers is whether we have the power to think without signs.

Definition 7 (sign) *A sign is something that stands for something (the sign's object) to someone (the sign's interpretation).*

Example 8 *The word “rabbit” stands for rabbits, smoke is a sign of fire, a person shouting at another is a sign that the person is angry, etc.*

Peirce denies that we can think without signs.

Theorem 5 *There is no thought without signs.*

His argument in support of this is put forward in a few sentences:

If we seek the light of external facts, the only cases of thought which we can find are of thought in signs. Plainly, no other thought can be evidenced by external facts. But we have seen that only by external facts can thought be known at all. The only thought, then, which can possibly be cognized is thought in signs. But thought which cannot be cognized does not exist. All thought, therefore, must necessarily be in signs. – EP2:24

The idea here seems to be that since we lack any capacity of introspection, all knowledge of inner facts (which would include thought) is through inference from external facts (**Theorem 4**, **Corollary 1**). Peirce contends that the only thought that can be evidenced from external facts then are thought in signs. That is, he rejects the idea that we could somehow directly perceive the internal thoughts of others. Since we can have no knowledge of thought-not-in-signs, Peirce asserts that thought-not-in-signs does not exist. That is, he rejects the idea of unknowable thoughts. Ultimately, then the only thought that can exist are thoughts in signs.

Proof 1 *All thought is in signs*

- P1: We have no capacity of introspection (**Theorem 4**) and thus thought can only be known by inference from external facts (**Corollary 1**).
- P2: The only thought that is evidenced from external facts are thought-in-signs.
- P3: Thought, which cannot be cognized, does not exist.
- C: Therefore, all thought is in signs.

Note 2 *This section involves a number of other complexities involving the relation of thought and signs to infinity as well as an objection involving unsignified thoughts. We will ignore these.*

Discussion 7 *Peirce contends that there are no thoughts without signs. A kind of oversimplified view of this is to say that all thought is embodied in language and so if you cannot speak*

a language then you don't have any thoughts. Why would this interpretation of Peirce's position be too simplistic?

Discussion 8 T5: *People sometimes say “I know X (or think X) but can't think of how to say it”. For example, Tek may love Liz but not know how to express it. If all thought is in signs, what would this imply about cases where we feel or think something but cannot express it? What would it imply about love in particular?*

0.6 Signs of the incognizable

The sixth question that Peirce considers is whether a sign can have any meaning if it is a sign of something incognizable. Recall that every sign stands for some object. The question then is whether a sign can have an object that cannot itself be cognized.

On the one hand, there seem to be cases of meaningful signs of things that are incognizable. Peirce considers two examples.

- there are **universal propositions** like “All men are mortal”. Intuitively, this sentence is meaningful. However, the meaning of this sign involves a reference to something potentially incognizable since it refers to an *infinity* of beings. But, we have no capacity to examine an infinity of beings and so there is a meaningful sign of something beyond our cognition.
- there are **hypothetical propositions** like “if HC won the election instead of DT, then there would be no wall”. Intuitively this sentence is meaningful. However, the meaning of this sign involves a reference to something potentially incognizable since it refers to an “every possible state of things, all of which are not knowable”. Thus, there is a meaningful sign of something beyond our cognition.

On the other hand, there is a case to be made that a sign does not have any meaning if it is a sign of something incognizable. The reasoning for this is that since all signs are abstractions and combinations of ideas that are originally derived from experience, “there can be no conception of the absolutely incognizable, since nothing of that sort occurs in experience” (EP1:24). The idea here is straightforward:

- P1: The meaning of a sign is the idea it conveys.
- P2: All ideas are derived from experience.
- P3: There is nothing in experience that is incognizable.
- C: Therefore, therefore a sign of something incognizable has no meaning.

Peirce is clear that a sign can have no meaning if it is of the incognizable.

Theorem 6 *A sign can have no meaning if, by definition, it is the sign of something absolutely incognizable.*

However, this section is a bit light on why this is the case, but Peirce does draw out a pretty significant philosophical conclusion from this claim. Namely, Peirce contends that *what is real* and *what is cognizable* (in the widest sense) are synonymous. In other words, we can have no conception of reality that is

entirely independent of our ideas, viz., the idea that reality is totally independent of our ideas is self-contradictory. That is, *to be* is to be capable of being cognized or known.

Corollary 2 *The only meaningful conception of reality is one that is cognizable.*

Discussion 9 *Peirce contends that we can have no meaningful signs of the incognizable. This means that any sign about something that cannot be conceived by the mind has no meaning. Can you think of some examples of signs of things that are incognizable?*

0.7 Ideas not determined by ideas

The seventh and final question that Peirce considers is whether any idea is not determined by a prior idea. Peirce contends that every idea is determined by a prior idea.

Theorem 7 *Every idea (cognition) is determined by a prior idea (cognition).*

Note 3 *We won't consider this question in the same level of detail with which Peirce considers it.*

At first glance, **Theorem 7** seems false given the following argument:

- P1: If an idea is determined by a prior idea and since we have ideas now, these ideas must have been determined by prior ideas, and these ideas must have been determined by prior ideas, and so on.
- P2: But there cannot be an infinite number of prior ideas so there must be a first idea not determined by prior ideas.
- C: Therefore, there is an idea not determined by a prior idea.

Peirce rejects **P2**. His argument is as follows:

- P1: Since cannot intuitively know which of our ideas are not determined (**Theorem 1**), the only way we could know is by hypothetic inference from observed facts.
- P2: Knowing how an idea is determined is to explain what determines that idea.
- P3: Assume there is some idea not determined by a prior idea.
- P4: If P3 is the case, then that something would be entirely out of consciousness.
- P5: We can have no meaningful sign of the incognizable (**Theorem 6**).
- C: Therefore, there is no idea not determined by a prior idea.

0.8 Summary

In this essay, Peirce has provided a picture of the cognitive powers of human beings. Negatively, Peirce has argued:

- lack a second-order power of intuition (**Theorem 1**),

- lack the power of intuitive self-consciousness (**Theorem 2**)
- lack the power to intuitively distinguish subjective elements of ideas (**Theorem 3**)
- lack the power of introspection (**Theorem 4**)
- lack the power to think without signs (**Theorem 5**)
- lack the power to use signs to meaningful represent what is incognizable (**Theorem 6**)
- lack the power to have thoughts not determined by prior thoughts (**Theorem 7**)

In the next essay, Peirce aims to draw out several consequences of the above limitations of human beings.

Discussion 10 *Peirce contends that all of our thoughts/ideas are determined by prior ideas. What does this imply about our ideas? What would we need to do to develop our ideas in the best possible way?*

Note 4 (Peirce on vision) Peirce (W2:196, 1868) routinely credits Berkeley's *Essay Towards a New Theory of Vision* (1843) for popularizing the discovery that the third dimension of space is inferred rather than directly perceived. It should be noted that Berkeley was not the first to conjecture that visual depth is inferred as aspects of the discovery can be found in II.ix.8 of Locke's *Essay* (1975) where he writes "[w]hen we set before our Eyes a round Globe, of any uniform colour, v.g. Gold, Alabaster, or Jet, 'tis certain, that the Idea thereby imprinted in our Mind, is of a flat Circle variously shadow'd, with several degrees of Light and Brightness coming to our Eyes." In contrast to the optico-geometric view of vision offered by Descartes (CSM II, 169-172) and Malebranche (1980:9:40-47), where visual depth is deduced from facts concerning the shape of the body on the eye, the distance between our two eyes, and the resulting angle, on Locke's view, we directly acquire ideas of breadth, height, and depth through the sense of touch but ideas of breadth and height through the sense of vision. As vision also provides quasi-spatial features (e.g. hues, brightness, gradients of shading) found in two-dimensional visual arrays, we learn (through experience) that there is a correlation between these quasi-spatial ideas and the idea of depth acquired through touch, e.g. the shaded gradient edges of a globe are correlated with the parts of the globe that curve away from the viewer's hands. Berkeley's originality then is not found in his rejection that depth can be intuited or inferred by coordinating ideas of tactile depth to those of visual perception. Rather, as Rick Grush (2007:427) insists, Berkeley's genius is found in the fact that he was "the first philosopher to see that the status of even height and breadth content as a proper visual sensible can be challenged in the same way that Locke challenged the status of depth content as a proper sensible."

While Peirce typically emphasized Berkeley's arguments for spatial depth being the product of inference, Peirce was appreciative (both in Berkeley and in Helmholtz's physiological optics) of the more general claim that other spatial properties like breadth and height were also inferred. For instance, we might suppose that we intuit a continuous two-dimensional oval surface, but this supposition is refuted by the presence of the blind spot and the anatomy of the eye since they suggest that this idea is inferred from something more basic. Peirce himself made this point in QCFC and again three years after QCFC, noting that not only was depth the result of an inferential workup, but "not even two dimensions are given in an immediate visual sensation; because the retina is not spread out like a sheet of paper; but consists of innumerable needle-points, which are directed towards the light, and the top of each of which is sensitive. No one of these, gives any sensation of extension, but only a flash of light without any reference to extension; therefore, all of them together give no sensation of extension, except so far as the mind is able to interpret the signs of extension which they present. It is well understood from the labors of those who have devoted themselves to the study of physiological optics, that these are but indirectly even signs of extension being primarily signs of the muscular motion which is necessary to pass from one point to another" (W3:33, 1872). And, ten years after his 1868 JSP piece, Peirce appears to have explicitly seen this point in Berkeley, writing that "[w]ith reference to space, Bishop Berkeley first showed, in

a very conclusive manner, that it was not a thing seen, but a thing inferred. Berkeley chiefly insists on the impossibility of directly seeing the third dimension of space, since the retina of the eye is a surface" (W3:317, 1878; see also Peirce 1894:252).

But what does all of this mean for Peirce, who was a deep admirer of Berkeley? Peirce's philosophical point is that if there were a second-order power of intuition, then we should be able to distinguish those perceptual ideas (like depth) that are immediately apprehended (intuited) from those that are the result of discursive processes. But, the history of science and philosophy reveal case after case where we misidentify perceptual ideas as being the result of an intuition when they are really the product of inference. Peirce contends that this counts as evidence against a second-order faculty that can intuit those cognitions that are immediately supplied by perception from those that are the result of inference.