

## Phil 176/276G: Historical Philosophers—American Philosophy

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### Handout #6: Charles Sanders Peirce: The Fixation of Belief

#### 1. Peirce on Logic

What is logic? Peirce notes that humans reasoned and made inferences long before we began to reflect on those inferences with the aim of identifying patterns in our reasoning which can be articulated or verbalized as the “principles” in accordance with which we’ve been reasoning all along. And this psychological project was an essential component of our efforts to distinguish the good (or reliable or valid) principles of reasoning from the bad (or invalid, unreliable or fallacious) principles of reasoning.

Indeed, each one of us assumes that she is good at reasoning until someone criticizes her reasoning. The study of logic begins when we identify the structure or form of the inference someone has made, articulate the principle in accordance with which she is reasoning, and then criticize that principle as false or invalid or affirm it as true or valid. **In this sense, the science of distinguishing good inferences from bad ones is not a priori.** You need to observe and study the inferences people actually make: (a) to identify the “forms” of inference or the general patterns to which their reasoning conforms, so as to (b) distinguish the good forms of inference (like modus ponens), from the bad ones (like affirming the consequent).

Questions: Is this the only way to study or develop logic? Is there a more a priori method? Notice here the strong empiricist component of Peirce’s conception of logic. Empiricism permeates pragmatic conceptions of all areas of philosophy, including even logic.

**Validity:** Though logical theory relies on psychology (i.e. the study of the inferences we actually make) in the sense articulated above, Peirce says that it yields a non-psychological definition of validity.

“The question of validity is purely one of fact and not of thinking. **A** being the premises and **B** the conclusion, the question is whether these facts are really so related that if **A** is **B** is. If so, the inference is valid; if not, not” (Haack, 110).

**Note 1:** Notice, that this is not our contemporary definition of formal validity. Much of the debate over the correct characterization of validity depends on seeing that the conditional in “If **A** is [true], **B** is [true]” cannot be the “material conditional” if that conditional is defined via the truth table Wittgenstein supplied for it. (Recall that according to this classical truth table, a conditional is false if its antecedent is true and its consequent is false, but is otherwise true.) If we interpret the conditional Peirce uses to define validity as a material conditional, then every inference from a false premise is a valid inference. And this is crazy. Contemporary model theoretic and proof theoretic definitions of validity solve this problem by introducing the idea of models (where a valid inference is one on which all admissible models that verify the premises also verify the conclusion) or substitutions of non-logical

vocabulary (where the conclusion is derivable from the premises under all admissible substitutions of the non-logical vocabulary of these expressions).

**Note 2:** Peirce does not have in mind a “formal” notion of validity of either the model theoretic or proof theoretic variety. This is made evident where he describes “What is true of one piece of copper is true of another” as a “guiding principle” which can be extracted from scientific inference and says that this principle is less “safe” than a similar principle framed around brass and other less variable materials.

“That which determines us, from given premises, to draw one inference rather than another, is some habit of mind, whether it be constitutional or acquired. The habit is good or otherwise, according as it produces true conclusions from true premises or not; an inference is regarded as valid or not, without reference to the truth or falsity of its conclusion specially, but according as the habit which determines it is such as to produce true conclusions in general or not. The particular habit of mind which governs this or that inference may be formulated in a proposition whose truth depends on the validity of the inferences which the habit determined; and such a formula is called the *guiding principle* of inference. Suppose, for example, that we observe a rotating disk of copper quickly comes to rest when placed between the poles of a magnet, and we infer that this will happen with every disk of copper. The guiding principle is, that what is true of one piece of copper is true of another. Such a guiding principle with regard to copper would be much safer than with regard to many other substances—brass, for example” (Haack, 11).

In place of our contemporary analyses of formal validity and probabilistic support Peirce distinguishes a relatively a priori or formal set of the “guiding principles.” Formal or “internal” logic for Peirce seeks to identify the “rules of reasoning which are deduced from the very idea of the process [of reasoning]” (Haack, 112).

**Peirce’s Semantic Realism:** Peirce admits “It is true that we do generally reason correctly by nature. But that is an accident; the true conclusion would remain true if we had no impulse to accept it; and the false one would remain false, though we could not resist the tendency to believe it.”

**Two Questions:** (1) **Truth and Falsity vs. Validity and Reliability:** Doesn’t this claim about the truth or falsity of a conclusion depend on the nature of the claim we have drawn from our premises? Surely true claims about the beauty of a sunset or the disgustingness of a mushroom are in some sense dependent for their truth on our sensibilities if not our bare tendency to believe them. (2) **Transcendental Reliability:** In some sense the mind-dependence of many of the things we regard as true is irrelevant to the logic, which is entirely concerned with a certain *relation* between the claims which feature as premises and conclusion. So the real question here is whether validity (or formal validity) is mind dependent, and whether it is true as Peirce asserts that the reliability of our reasoning is “an accident.” And it is hard to see how this claim of accidentality can be squared with the methodology of logic that Peirce has identified. If we use our reasoning capacities to study our inferences and distinguish the good ones from the bad ones isn’t it insured in advance that we will find the forms of reasoning we are using for this endeavor good ones? Surely, *we’re going to reason as best we can* when we’re arguing that certain principles are good

and others not. Might we really reason our way to the conclusion that our *best* forms of reasoning are entirely unreliable, including those forms of reasoning we employed to reach this skeptical conclusion? If our skeptical conclusion undermines the reasoning we have used to reach it, shouldn't we distrust that reasoning and therein come to distrust or reject the skeptical conclusion we drew from it? Aren't we insured, in advance of inquiry, by the very methodology of logical inquiry itself, that we will wind up treating as good or reliable, "those rules of reasoning which are deduced from the very idea of the process"?

## 2. Peirce on Epistemology

Peirce tells us that the medieval schoolmen, including Anslem and Aquinas (who wrote during the "scholastic" period in philosophy 1100-1700), taught that all reasoning "bottoms out" in premises, which are known by "authority."

Epistemological Questions: Consider the class of "foundational" or non-inferentially justified beliefs or judgments. Some of these are believed on the basis of perception or observation. Some are the products of memory. And some are believed on the basis of our understanding of their terms alone: i.e. the class of "self-evident" propositions. How do these "foundational" beliefs compare with beliefs we ground in the testimony of scripture or the testimony of priests authorized to interpret scripture for us? Is the "authority" we grant our memories and senses comparable to the authority we invest in the testimony of religious or moral "authorities"?

For more on scholasticism see <https://en.wikipedia.org/wiki/Scholasticism>

Roger Bacon: All non-inferential knowledge (equivalently, all knowledge of premises) must be "grounded in" or "based on" experience. But by "experience" Roger Bacon includes things beyond sensory experience. Peirce tells us he included the kind of mystical experience that could inform someone of the transubstantiation of bread.

Francis Bacon: All inferential knowledge (equivalently, all knowledge of premises) must be "grounded in" or "based on" experience. But these experiences must be "open to verification and reexamination" by other people. Presumably other people verify our observational claims by using their senses to enjoy the same (or similar) experiences. (Question: where does this leave introspection as a source of foundational knowledge?) Peirce says that Bacon's conception of scientific method and the ways in which it allows us to base theories on experience is overly simplistic and naïve.

Kepler: In using math to predict the orbits of Mars, and using observations of its movement to rule out alternative arithmetic representations of its path, Kepler exemplified the kind of scientific method we now take for granted.

Lavoisier: According to Peirce, Lavoisier's work with chemicals gave us "a new conception of reasoning, as something which was to be done with one's eyes open, by manipulating real things instead of words and fancies."

Peirce: "Each step in science has been a lesson in logic."

Task: Go back to Peirce's empiricist conception of logic and use it to explain what he means by this statement. Verification of this claim would require better knowledge of the lives and work of Kepler, the Bacons and Lavoisier than I have at present.

**Darwin:** Peirce writes of the "Darwinian controversy" which he claims is "in large part a question of logic." Natural selection operates on populations over long periods of time to produce adaptations and (ultimately) distinct species of animals that cannot successfully breed with their remaining ancestors. (Even artificial selection takes time to produce new species, though it is quicker--especially with rapidly reproducing animals.) Peirce compares this with Maxwell's kinetic theory of gases. The comparison is that Maxwell's theory correctly models the behavior of populations of gas molecules without inferring this from measurements of the individual molecules in that population. Similarly, Darwin correctly models the behavior of populations of organisms without inferring this from measurements of the individual organisms in the population. In this sense, "Darwin proposed to apply the statistical method to biology."

**Peirce's argument against Descartes:** Remember Descartes set out to doubt everything capable of being doubted so as to rebuild his knowledge from a secure foundation in indubitable truths. But Peirce uses his definitions of "doubt" and "inquiry" to argue that Descartes never really succeeded in doubting the external world. Indeed, Peirce dismisses philosophers who argue about our knowledge of the external world.

"The mere putting of a proposition into the interrogative form does not stimulate the mind to any struggle after belief. There must be a real and living doubt, and without this all discussion is idle" (Haack, 115).

Peirce on the rejection of "special" foundations: As we saw when discussing the epistemology of the founders, foundationalists typically limit non-inferentially justified belief to a special class of propositions: observational knowledge, introspective knowledge and self-evident logical and conceptual truths are supposed to supply us with the kinds of non-inferential knowledge from which we can argue for, infer or ground the rest of what we claim to know. But Peirce says that anything that does not elicit psychologically real doubt can serve as a foundational premise for a "demonstration" or proof of a claim.

"An inquiry to have that completely satisfactory result called demonstration, has only to start with propositions perfectly free from all actual doubt. If the premises are not in fact doubted at all, they cannot be more satisfactory than they are" (Haack, 115).

**Questions:** Consider the effect of Peirce's non-Cartesian, pragmatist epistemology on the theory of natural rights. If we do not actually doubt the existence of rights to life, liberty and the pursuit of happiness does that show that we do not need an argument for belief in these rights? Who does "we" refer to here? Does the justification with which we hold a moral view depend on who objects to that moral view? Can we describe natural rights as self-evident if we define "self-evident" as "not in fact doubted by anyone we know"? Do those who engage in inegalitarian behaviors and modes of thinking really believe in universal rights (think here of Jefferson or Huxley or Nietzsche or Trump). Does the mere

existence of such people show that need an argument for egalitarianism and the rights based articulation of the egalitarian belief that no one should act or reason as if she is morally superior to anyone else? What if Jefferson had described egalitarianism as “indubitable” instead of self-evident?

### **3. The Impact of Darwinian Biology on Epistemology**

“Logicity in regard to practical matters is the most useful quality an animal can possess, and might, therefore, result from the action of natural selection; but outside of these it is probably of more advantage to the animal to have his mind filled with pleasing and encouraging visions, independently of their truth; and thus, upon unpractical subjects, natural selection might occasion a fallacious tendency of thought” (Haack, 111).

**Questions:** (A) What is the relation between the fitness value of holding a given belief and the truth of that belief? Peirce correctly infers that it is a prediction of Darwin’s theory that we are likely to hold a fitness enhancing belief whether or not it is true. Darwin’s theory predicts that we will only hold true beliefs to the extent that holding true beliefs augments our reproductive fitness. In particular, Darwin’s theory predicts widespread false optimism (about ourselves and the prospects of our friends and families) when a more realistic view would impair our efforts to successfully reproduce. Is this prediction verified? (B) Again, the validity of inferences and the reliability of belief forming mechanisms must be distinguished from the truth of premises or conclusions. It is a prediction of Darwin’s theory that we will only conform to valid forms of inference and employ reliable belief forming methods to the extent that doing these things augments our reproductive fitness. In particular, Darwin’s theory predicts widespread invalidity and unreliability when more cogent reasoning would impair our efforts to successfully reproduce. Is this prediction verified by an examination of the kinds of reasoning people employ when deciding what to do? Do moral beliefs and inferences fall prey to this critique? Are they invalid or unreliable but fitness enhancing?

(C) Darwin’s theory can be applied to epistemology at a deeper level: perhaps the very concepts and percepts we enjoy are not best conceptualized as attempts to represent the world as it was prior to the evolution of those percepts and concepts. Instead, we see and conceive things in ways favorable to reproductive fitness. Consider the colors of things as an example. It is wrong to say that things had the colors they did and we evolved color vision to correctly track or represent those colors. Instead, we evolved the color vision we have to see berries and fruits (etc): foods important to our survival as foragers. Color vision is reliable not because reliably tracking the colors of things gave a fitness advantage to those with color vision. Instead, our color vision evolved to aid foraging and those of us with human color vision use it to make reliable judgments about the colors of things because we define the colors in terms of the outputs of our color vision. This is the sense in which reliability is not “an accident,” contrary to the kind of semantic realism Peirce endorses above.

**An Important Meta-ethical Question about the Relation of Darwinism to Moral Truth:** Are morals like colors in this regard? Is the truth about what is right and wrong “internal” to the definitions we give of our moral concepts, where these moral concepts are

grounded or given shape by emotional sensibilities and intuitions of fairness which evolved because they bestowed a fitness advantage on those who enjoyed them (or the groups in which these individuals functioned)?

#### 4. Peirce on The Nature of Belief

What is belief? We've been addressing this question through the subject of hypocrisy. Did Jefferson really believe that all men are created equal and endowed by their creator with natural rights to life and liberty? To answer that question you need to say something about what it is to believe something.

**Peirce's analysis of belief:** (a) belief is associated with certain sensations: the feeling of conviction, (b) "our beliefs guide our desire and shape our actions," and (c) beliefs are satisfying and "entrenched" insofar as we are reluctant to revise our beliefs.

Peirce tells us that the sensation of belief is a "more or less certain indication" that we have a "habit" which disposes us to use the information we believe to guide our desires and shape our actions. He isn't super clear on this, but it seems he's thinking of the feelings of conviction as the **evidence** on the basis of which we judge ourselves to have certain beliefs, but **he thinks of the habits that lead us to guide or shape our actions as the beliefs themselves**, where these habits can be entrenched to varying degrees. This is pretty close to the view endorsed by Alexander Bain, where Peirce described Bain's theory of belief as the "axiom of pragmatism."

A putative counter-example: What about abstract beliefs in mathematics or theology or beliefs that have no bearing on our bodily actions?

Peirce's response: "Belief does not make us act at once, but puts us into such a condition that we shall behave in a certain way, when the occasion arises."

Peirce distinguishes **doubt** from **belief** along all three of the dimensions he identifies: (a') doubt feels different from belief, (b') doubt halts action or at least does not establish habits or entrained dispositions toward action, and (c') doubt is not entrenched: we run from doubt.

#### 5. Peirce on The Nature of Inquiry

**Peirce's definition of 'inquiry'** (which he claims is not very good): inquiry is the irritation of doubt causing a struggle to attain a state of belief. The sole object of inquiry is the settlement of opinion.

Criticism: Do we really just aim at acquiring some belief or other on an issue marked by doubt? Don't we aim at knowledge or true belief instead?

Peirce's response: "As soon as a firm belief is reached we are entirely satisfied, whether the belief be true or false....we think each one of our beliefs to be true, and, indeed, it is mere tautology to say so."

Question: Is this true? Or can you have a belief you cannot shake even after you've decided it isn't true? What about moral beliefs? Belief in natural rights in particular? How does Peirce's claim here square with his assertion, later in this same essay, "The force of habit will sometimes cause a man to hold on to old beliefs, after he is in a condition to see that they have no sound basis" (Haack, 125)?

Further Questions: Suppose we can describe as "indubitable" beliefs we cannot bring ourselves to doubt even though we have no argument for them and we know that other people do in fact doubt them. How stable are our beliefs in these principles? Do morals we hold dear eventually disappear when they can no longer be grounded in or defended with arguments?

## 6. Three Different Epistemological Policies

**The Method of Tenacity**: get an answer to a question that you like, repeat that answer to yourself, collect evidence and arguments in its favor, ignore or scorn evidence and arguments against it.

Peirce says that some people adopt this method consciously, but it is more often instinctive. Sometimes the inconvenient truths cause harm to those who refuse to acknowledge them because they follow the method of tenacity. But often enough, the benefits they derive from believing what makes them feel good outweigh the costs that follow from their failing to take into account these inconvenient truths.

Peirce says we can't justly call the tenacious believer "irrational" because all we can mean by that is that, "his method of settling belief is not ours. He does not propose to himself to be rational, and indeed, will often talk with scorn of man's weak and illusive reason. So let him think as he pleases."

Question: Is this right? Is the method of tenacity "objectively wrong" even if it helps the man achieve his ends better than any other method of inquiry? What does "objectively wrong" even mean in this context?

**The Method of Authority**: Use violence and social sanctions to force the group to adhere to a given set of beliefs lest they suffer the consequences of dissent.

The problem with the method of tenacity comes when the person who follows it wants to communicate with other people. Since they won't necessarily believe what he believes, they will supply him with evidence against his beliefs that he cannot ignore. So we have to choose between the method of tenacity and a social life. "Unless we make ourselves hermits, we shall necessarily influence each other's opinions; so the problem becomes how to fix belief, not in the individual merely, but in the community." To enact the method of tenacity at the community level requires an oppressive state apparatus and a "thought police." Peirce gives several examples of such regimes throughout human history. He seems to have the story of Jesus' resurrection and divinity in mind at points when speaking of the Church's inquisitions:

“Let a list of opinions be drawn up, to which no man of the least independence of thought can assent, and let the faithful be required to accept all these propositions, in order to segregate them as radically as possible from the influence of the rest of the world.”

Peirce says that the social aspect of the system gives it huge advantages over the method of tenacity. He says it yields the most stable forms of society and allows these societies to generate “great works” (e.g. the pyramids, temples and cathedrals) that come from communal labor that requires the sublimation or suppression of personal desires, goals and opinions.

Just as the method of tenacity falls apart when different individuals talk to one another, Peirce says the method of authority falls apart when different cultures or societies talk to one another, or when people in one culture learn of other cultures through books and records. When we see that people in other places and times have different beliefs than ours, and we can see no “neutral” or culture-independent reason for thinking our beliefs better than theirs, we are led into doubt.

At this point, Peirce turns to the development of philosophical or “metaphysical” methods of belief fixation followed from Plato onwards, which Peirce nevertheless diagnoses as forms of the method of authority. Peirce allows that the classical philosophers who have been canonized were not forced to believe what they did by priests or soldiers or other authorities. Philosophers are left to survey the beliefs of those in their community and consider the beliefs of other cultures to see which beliefs are most “agreeable to reason.” But he thinks that this method has a built in prejudice for the traditional beliefs with which the philosopher begins his inquiry (as on the method of reflective equilibrium).

“This method is far more intellectual and respectable from the point of view of reason than either of the others which we have noticed. But its failure has been the most manifest. It makes of inquiry something similar to the development of taste; but taste, unfortunately, is always more or less a matter of fashion, and accordingly metaphysicians have never come to any fixed agreement, but the pendulum has swung backward and forward between a more material and more spiritual philosophy, from the earliest times to the latest...development, while it is a process which eliminates the effect of some casual circumstances, only magnifies that of others. This method, therefore, does not differ in any essential way from that of authority.”

**Questions:** Is this true? If philosophy necessarily relies on intuitions, and a philosopher’s intuitions are shaped in important ways by the suppositions and prejudices of the culture in which she learned to think and speak, does philosophy tacitly rely on authority in the way Peirce claims it does?

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

“To satisfy our doubts...it is necessary that a method should be found by which our beliefs may be caused by nothing human, but by some external permanency—by something upon which our thinking has no effect...”

**Questions:** Is Peirce’s scientific realism an accurate description of scientific practice? Can scientists really just “outsource” the job of fixing belief to nature herself? Can we really figure out which aspects of our beliefs come from our sensibilities and modes of conceptualization and which aspects are assignable to an entirely independent set of objects which affect us through our sensibilities and are conceptualized by us in the terms we’ve formulated through our development of languages and other symbol systems?

**Further questions:** What about the theory of natural rights? Can it be fixed through the method of science? What about moral and political beliefs more generally? Can we do without these? Can we get them from science as Peirce here conceives of it?

**Answer:** No. Doesn’t this show that the method of science is an incomplete epistemological method? Has anyone ever lived without moral and political beliefs? (How would acceptance of Peirce’s analysis of belief impact our answer to this question?) **Can** we really live without moral and political beliefs?

How does Peirce’s scientific realism square with his final characterization of the method of science?

“There is such a thing as truth, which is distinguished from falsehood simply by this, that if acted on it will carry us to the point we aim at and not stray” (Haack, 125-6).

**Final Question:** Might moral and political principles be affirmed by the method of science so articulated even if they are not facts about a mind-independent reality? Is there “a point at which we aim” in our interpersonal interactions?