

# Introduction to Philosophy II // Spring 2017

## Handout 8

### Naturalism: Peirce

**INDUCTION AND ABDUCTION.** Peirce's subject is reasoning, so it is natural he begins by making a few remarks about induction. The earliest view on induction is that of Bacon, who is usually interpreted as a defender of crude generalisations. Science proceeds by making observations and generalising from them. After observing the sun rising on many occasions, I generalise these observations into a statement, 'The sun always rises in the morning.' Peirce dismisses this method. One reason is that it does not correspond to the actual practice of science. The Kepler example is withdrawn in the footnote, but the Lavoisier example stands. Scientists first come up with a hypothesis, then test it in observation. The hypothesis itself may come from different sources, perhaps in a dream!

One way to codify this last method is to use what Peirce called *abduction*. We begin with postulating a theoretical implication: If  $P$ , then  $Q$ . The sentence  $Q$  describes what we observe. If we indeed observe  $Q$ , we infer  $P$ . Logically, this is an invalid inference. So we cannot infer  $P$  with logical certainty. Instead, we should say that  $P$  *probably* holds.

*Example 1.* Consider the following inference:

1. If the economy slows down, the inflation rate falls. (If  $P$ , then  $Q$ ).
2. The inflation rate falls. ( $Q$ )
3. Probably, the economy slows down. (Probably,  $P$ )

This is clearest in the cases where causal factors are obscure. Darwin was unable to specify the causal factors behind natural selection. He had no knowledge of genetics and molecular biology. Nevertheless, by using abduction, he was able to fashion evolutionary explanations of the biological phenomena he observed.

*Question 2.* Give an example illustrating Darwin's abductive method, as described here and in page 7.

**OBJECTIVITY OF REASONING.** It is well to draw attention to Peirce's quick remark on logical objectivity. One might think that we accept inferences because of the particular constitution of our thinking. We accept *modus ponens*, because we are inclined so. Other creatures, with different constitution and different inclinations, would dismiss it.

Peirce rejects this idea (though without much argument). Valid inferences are those that never lead from true premisses to false conclusions. So inferential connections are between truths (or facts), not between our inclinations.

*Remark 3 (Modus ponens).* The inference is given by a schema:

1. If  $P$ , then  $Q$ .
2.  $P$ .
3. Therefore,  $Q$ .

For example:

1. If Lenin is dead, he cannot be resurrected.
2. Lenin is dead.
3. Therefore, Lenin cannot be resurrected.

**GUIDING PRINCIPLES IN INDUCTION.** Nevertheless there is a *different* question about our actual inferential practices. There *is* still a question why we accept *modus ponens*. The suggestion is that this is due to our habits. We tend to accept the validity of *modus ponens*, because this habit (of accepting) was found to be useful in the course of evolution.

Every inference is based on a *guiding principle*. Now this notion is not terribly clear. I suppose it corresponds to our intuition that classifies some inferences as good, and some as bad.

*Example 4.* A bad inference may be this:

1. If Lenin is a dictator, then he is feared.
2. Lenin is not a dictator.
3. Therefore, Lenin is not feared.

*Question 5.* Formalise the last inference.

Peirce gives a very interesting illustration of the guiding principle in the case of induction. When I observe that magnet fails to attract a given piece of copper. I conclude that no piece of copper can be attracted by magnet. But further, suppose I have a few pieces of copper coins in my pocket. I do not conclude that all copper coins are in my pocket. Nor do I conclude that all coins in my pocket are copper.

*Remark 6.* This last claim is nothing but a celebrated distinction between lawlike and non-lawlike statements due to Nelson Goodman (writing seventy years later).

**DOUBT AND BELIEF CONTRASTED.** Why do we draw inferences? why do we ask any questions about the world at all? The reason is, as Peirce sees it, that we seek to settle our beliefs. We wish to rid of doubt and to bring our beliefs into some form of equilibrium. Beliefs are different from doubts not only introspectively. Doubt cannot guide our action. Only belief can. Doubt causes irritation, while belief is a calm state of mind. Indeed, ‘inquiry’ as a whole is defined as a struggle to attain a state of belief.

I am not sure these distinctions hold, at least as stated. Doubt can motivate our action. Perhaps it motivates ‘inaction’, hesitation, but this is also a form of action. I doubt what is being proposed at a meeting, and so I abstain. Obviously this is an action on my part.

Doubt can be held tenaciously. For example, I can doubt whatever the economists are saying, and I can be quite attached to my doubt. I would refuse to invest my savings. So you say, ‘You have a belief in your doubt!’ But then that is the case with every doubt: to doubt is to believe that some beliefs or statements are doubtful. It seems, if anything can be made of this, we need a much finer classification.

**WRONG METHODS OF FIXING BELIEFS.** If fixing belief is the ultimate goal of inquiry, what are the ways for that? Peirce considers several bad ones, before sketching the preferred alternative.

*Method of tenacity.* I can simply refuse to budge in my belief. I can decide to hold whatever belief I have. That is not a good way, since we are normally influenced by others. And since men live in communities, the proper question must be one of fixing belief community-wide.

*Method of authority.* Another method is, in essence, an extension of the tenacity method. Here we propose to regulate beliefs of everyone by fiat, supported by force and threat. This was frequently adopted in history, by religious dogmatists and secular dictatorships.

But, *in the long run*, this method is ineffective, for two reasons. One is that people may be exposed to alien beliefs, originating in other systems of belief (perhaps instituted by other authorities!). Brought up as a Hindu, I can be exposed to the temptations of Buddhism. Even if the authority manages to seal the community hermetically (see North Korea), it cannot regulate every belief of the people. And then those unregulated beliefs may clash with the regulated ones.

Again, we might say, in the short run this is still effective. And in the long run, we are all dead. So things aren’t that bad for the authority.

*Method of pure reason.* This method is favoured by many philosophers. Ultimately, they cannot agree on what claims are suggested by reason. Everything disintegrates into a clash of intuitions and aesthetic preferences. They similarly cannot account for the reasons *why* those claims suggested by reason are in fact suggested by it. They cannot inform us about the source of reason’s authority.