

Philosophical and Non-Philosophical Inquiry

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WHAT'S COVERED

In this tutorial we will look at how philosophy relates to science, and consider some of the issues around justifying our belief. Our discussion will break down like this:

1. Review of Philosophy

To begin with, recall that philosophy is the pursuit of truth. This means philosophy is not just the collection of information. Rather, it places the highest importance on how we go about discovering whether or not something is true.

Here are some of the ways philosophy typically attempts to secure truth:

1. Using reasoning and logical arguments
2. Maintaining consistency between our actions and beliefs
3. Consistently applying our standards of judgment or evaluation
4. Guarding against the biasing influence of our passions

It is not just the way of pursuing truth that distinguishes philosophy. It is also the type of truths it pursues that makes it different from other disciplines (such as science). Philosophy helps us understand things that we cannot know just by looking at the physical world.

➔ **EXAMPLE** You are reading or listening to this tutorial. A scientist could explain the way your body (e.g. your eyes, ears, etc.) enables you to do this. But philosophy will approach this in a different way: it will ask “what are your reasons for doing this?”. In other words, it will ask for the ideals or goals that motivate your actions (e.g. self-improvement, pursuit of knowledge, etc.).

Thinking about the reasons we have for doing things, and questioning whether or not we think they are good reasons, requires us to go beyond mere observation and instead use arguments and critical thinking.



BIG IDEA

As you can see, this supports our definition of philosophy as the pursuit of truths that cannot be determined wholly empirically.

2. Philosophy and Science

Not only does philosophy do things that science cannot, it can also improve the sciences. One of the main ways it does this is by revealing beliefs or assumptions that influence scientific activity.

➔ **EXAMPLE** A scientist may try to solve food shortage by developing ways for crops to have higher yields (e.g. genetic engineering). A philosopher may reflect on the nature of the problem and show that it is not more food that is needed, but a better distribution of the food we already have, thus pointing the way for scientists to find solutions to food distribution.

Scientists are very good at finding solutions to problems, but do not always place the same amount of energy into thinking about whether the problem itself is properly posed. Philosophy can make us aware of the nature of the problems or goals we are responding to.

Another way philosophy can help science is by drawing attention to the way that scientists' observations may be influenced by their expectations.

➔ **EXAMPLE** You know that when steel is exposed to oxygen, over time it will rust and turn brown. If you did not know what color copper turns, you might expect to see brown also. And you might think you see it turn brown, even though it actually turns green.

You might be thinking: "I would never make that mistake." And maybe you would not in this example. But you never know when your expectations might influence your perception of things.

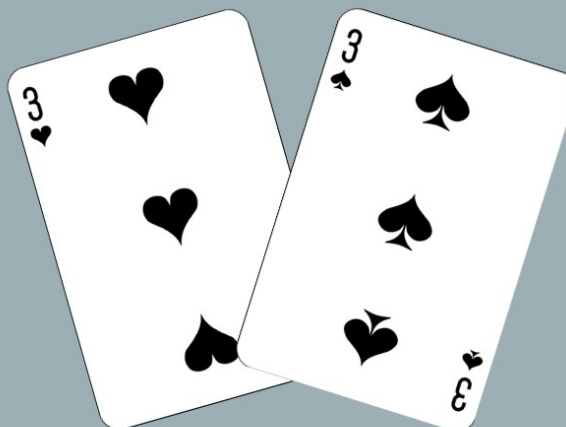


DID YOU KNOW

In an experiment at Harvard University in 1949, two psychologists, Jerome Bruner and Leo Postman, found that people would often allow their expectations to influence their perception of things.

BRUNER AND POSTMAN'S 1949 EXPERIMENT

Participants were shown playing cards where the suit and color did not match (e.g. a three of hearts that was black)



But they said they had seen a card where the suit and color matched (e.g. a three of spades)

It was only after many attempts that they got it right and managed to work against their expectations.

3. Philosophy within Science

Being aware that scientific results may be distorted in various ways leads many scientists to think philosophically about their practice.

➞ **EXAMPLE** If a scientist finds evidence that supports her view, she will rarely think that her job is done. Instead, she will repeatedly perform experiments in different ways to try to rule out any biasing factors.

As this example shows, a scientist's job is not finished once she has made an observation. At the very least, she reflects upon the nature of the observation itself, which is a philosophical activity. On top of this, scientists will also need to think about how their results relate to other scientists' findings.



DID YOU KNOW

For a long time, scientists believed light to be made of particles. But then some observed light behaving like a wave. How can we fit these together? You might think: "surely only one can be right." Reflecting on this problem led Einstein to the conclusion that both descriptions of light are correct in their own way (which contributed to him being awarded the Nobel Prize in 1921).

There are other ways that reflection on science itself yields important scientific results. An important question for social science is whether it should follow the model of the natural sciences. Which way a scientist answers will determine the kind of investigation they do and the discoveries they make.

➞ **EXAMPLE** If a social scientist thought they should imitate the natural sciences, then they will try to find law-like regularities in the social world that are as rigid as the laws of nature (such as the law of gravity). If a social scientist thought they should not imitate the natural sciences, they will probably emphasize the element of unpredictability in human action.

4. Belief and Evidence

A lot of what we have been talking about revolves around willingness to question ourselves. But this should not make us think that we should give up having beliefs altogether.

You can have a belief without being completely certain about it.



THINK ABOUT IT

You would check the weather report before going hiking. Say the forecast was good, and you packed your gear. Would you be completely certain that it won't rain? Or would you be prepared to watch a movie just in case?

From experience you know that the weather forecast is not always correct. So you know that you cannot be completely sure of the weather based on this evidence. By making the strength of your belief dependent on the strength of the evidence on hand, your belief is a rational one.

For your belief to be rational, you consider the evidence both for and against. You must weigh up all the available evidence and let that guide your belief. Remember, it is not enough to have an opinion in philosophy, you need to justify your claims.

➞ **EXAMPLE** When philosophers debate about whether abortion is morally permissible or not, they do not take seriously everyone's opinion on the matter, only those that can give well-reasoned arguments in support of their view.

5. Philosophical and Non-Philosophical Questions

We have been comparing and contrasting science and philosophy in various ways. We have seen that philosophical approaches, though distinct from non-philosophical ones, can complement them.

Let's look at some other non-philosophical approaches to see how they relate to philosophical approaches. Consider the topic of human mortality or death, for instance, and see how each approach offers different types of questions.

Philosophical and Non-Philosophical Questions	
Philosophical	What does our morality mean to us? How does it effect our self-understanding?
Sociological	How do different societies deal with death? (e.g. burial, rituals, etc.)
Scientific	What changes does organic life undergo when it dies?
Religious	Is there life after death?
 SUMMARY	

We started this tutorial with a **review of philosophy**, considering some of the core characteristics of philosophical inquiry. Then **philosophy and science** were compared, focusing on how philosophy can aid scientific inquiry, before looking at the presence of **philosophy within science**. In particular, we saw how scientists reflect philosophically on their activities and methods.

Then we saw how we need to balance **belief and evidence** in order to be rational. Finally, **philosophical and non-philosophical questions** were contrasted to give an idea of the variety of approaches that can be taken on a single topic.

Source: Playing card (three of hearts) illustration, Public Domain, <http://bit.ly/2aj7fOU>; Playing card (three of spades) illustration, Public Domain, <http://bit.ly/2aTJIDU>