



When Philosophy Meets Science

A short introduction to the Philosophy of John Locke and David Hume

Harry and Chloe had a truly fascinating experience. While working on their philosophy project, they received a surprise visit from John Locke and David Hume! They knew that their story sounded very strange, but nevertheless, they shared it with their teacher. The teacher looked at them, full of surprise, and didn't speak for a moment until she finally stood up and told them that this was a story that they should also share with the rest of their classmates. The students decided to organise a small theatrical play in their classroom, taking the role of the two philosophers to explain the concept of epistemology to their classmates.

The short play would take place in a Physics classroom. In the play, Harry and Chloe – portraying Locke and Hume respectively, discuss the sun and try to decide if it will rise tomorrow, or not!

Teacher: Good morning! Please take your seats. Today, Harry and Chloe have prepared a small theatrical play for us. Feel free to raise your hand if you have any questions or want to join the discussion. Harry and Chloe have had the chance to meet two exceptional individuals – two philosophers, John Locke and David Hume. Today they will be portraying these philosophers to analyse the phenomenon of the rising sun. Are you all ready for the play to start?

The students seemed very excited and couldn't wait for the play to start! And now, here it goes...

Harry (as Locke): Good morning! It's another sunny day. How are you my friend David?

Chloe (as Hume): Good morning, John! We are not discussing innate capacities again, are we?

Harry (as Locke): No, my friend but since you mention it; do you want to explain to our friends what innate ideas and capacities are?

Chloe (as Hume): Of course. So, my young friends: 'Innate Ideas' (in philosophy) are the ideas that are believed to be inborn in the human mind, prior to experience'. However, just like my friend John,- I do not believe in innate ideas. We both believe that knowledge is acquired through experience.

Harry (as Locke): That's absolutely correct. And that's why we're called Empiricists. Empiricism, in philosophy, is the belief that all ideas and knowledge are gained through experience. However, I do believe that there are certain concepts which we know about, but we cannot fully experience and these are referred to as innate ideas. Examples include the concepts of 'the cause' or 'the substance'.



Chloe (as Hume): My dear friend! You just told me we wouldn't engage in this debate today.

Harry (as Locke): Correct. Today we are here to discuss the phenomenon of the sunrise. So, will the sun rise again tomorrow morning? What do you think?

As Harry asked this question, the students started to laugh... 'of course, the sun will rise; it has been doing so for thousands of years now' most of the students said, and they looked a bit puzzled by the question. But before Chloe could continue, a voice was heard from outside of the classroom: "It cannot be certain that the sun will rise tomorrow".

The students turned around and David Hume was standing at the door.

Chloe: Hume, it's so nice to see you again! Where is Locke?

Hume: Ah, he is arguing with Newton again!

Harry: Well, maybe he will join us in another debate then! But I think he would agree with you, that we cannot, in fact, know if the sun will rise tomorrow. Right?

Hume: Well, yes. Locke discussed the meaning of existence and the difference between the sensory experience of the sun and the memory of the sun. But let's go back to our discussion. So, my dear friends, why do you believe that the sun will rise tomorrow?

The students looked puzzled again, unable to even consider the possibility of the sun not rising.

Chloe: Hume, your argument regarding our belief that the sun will rise tomorrow is based on the Problem of Induction. Is this correct?

Hume: Exactly Chloe!

Harry: Could you explain this to us in a bit more detail?

Hume: Of course, my little philosophers! Let's start with a small explanation of deductive and inductive reasoning. Deductive reasoning is the case in which if the premises are true, the conclusion reached will be final and absolute.

Chloe: So, if:

Premise 1: All philosophers are immortal.

Premise 2: David Hume is a philosopher.

Conclusion: Therefore, David Hume is immortal.

Hume: Nice example Chloe! That's exactly how deductive reasoning works. In Inductive reasoning, on the other hand, if the premises are true, you will reach a probable conclusion, but it is not certain and not absolute.



Harry: Oh, I remember a common case that explains inductive reasoning:

Premise 1: All known living organisms need water to survive.

Premise 2: If we find a new living organism, it would also need water to survive.

Conclusion: It is very probable that it will need water to survive, but we cannot be absolutely certain that a new organism will need water just like all the existing organisms.

Hume: You are right Harry! Inductive truths are reached through experience and observations of how the world works. The problem with Inductive reasoning is that you can never reach certain knowledge, but only probable conclusions based on previous experiences. Experience, however, can only assure us what we have observed from our past experiences, but we cannot reliably generalize beyond this. We cannot use what we have experienced in the past to know what we will experience in the future. As a result, inductive reasoning is not certain knowledge, and it inevitably leads us to doubt whether the knowledge we gained through inductive reasoning is true or not.

Chloe: So, we wake up every day and we see the sun. Therefore, we know that the sun will rise tomorrow morning as well. This is what we all assume, right?

Hume: Exactly, but this knowledge comes from inductive reasoning. It is a logical conclusion based on our experience and observations, but not a certain conclusion.

We do not know whether the sun will rise tomorrow, and just because we have previously experienced the sun rising every single day does not mean it will necessarily rise tomorrow.

In extreme cases, and if we can even imagine that something goes very wrong, then the sun might not rise. And if we can imagine this scenario, then the assumption that the sun will rise tomorrow morning is not an absolute truth or a certain matter of fact.

Harry: So, any knowledge we get through inductive reasoning is wrong?

Hume: Not exactly. Most of our knowledge is based on experience. It's just that we should not consider this knowledge as an absolute certainty.

So, your friends are right in assuming that the sun will rise again tomorrow morning as the Earth's rotation and the sun's behaviour have continued the same patterns for thousands of years. Nevertheless, we should keep in mind that major cosmic events or the impact of large asteroids could, exceptionally disrupt this routine, leading to the sun not rising.

Chloe: I honestly hope this won't happen any time soon!

Hume: Don't worry my little philosophers, this is a very unlikely scenario. The rising sun is just an interesting example, for discussing deductive and inductive thinking. It challenges our understanding of a scientific phenomenon that we all observe daily.



Harry: Thank you for joining us today Hume. We would love to see you again. Please give our regards to Locke.

Hume: I will my friends. Good-bye.

And with these words, Hume walked away. The students were very excited and began discussing knowledge, innate ideas and the example of the rising sun.