

Today, I'll be finishing off our historical survey by talking about David Hume, and then I'll be moving on to the first of the topics of general philosophy—the main topics that form the syllabus—and focusing on the topic that's most associated with David Hume, namely induction. David Hume, known at the time as the "great infidel" by some, was probably the greatest philosopher of this period, at any rate in my view. He was a Scottish philosopher who unfortunately had nothing whatever to do with Oxford. He lived from 1711 to 1776. His biggest and, in many ways, most famous work is the "Treatise of Human Nature" of 1739. He went on to write quite a wide range of fields, a lot of very interesting essays which, to some extent, help to found the science of economics. Adam Smith was a younger contemporary of Hume whom Hume influenced a great deal. Hume wrote a history of England which was, for a long time, the standard history. He also published a lot on religion, including the "Dialogues Concerning Natural Religion" of 1779, published posthumously. It was such a dangerous work. If you want to read a truly great work of philosophy that is actually quite funny, then the "Dialogues" is the place to go. I think it is certainly the greatest combination of philosophical originality, erudition, and humor to be found in literature.

Now, in many ways, Hume can be seen as building on Newton and Locke. From Newton, you get the general idea that the aim of science is not necessarily to aim for ultimate understanding of things, but rather systematization. Just as Newton, when it came to gravitation, didn't pretend to understand how gravitation works, he gave formulae that encapsulate how it works, the effect of it. So, that is taken by Hume to be a model for how science in general can operate. Unlike Locke, in contrast to people like Descartes, Hume emphasized that the aim of science is not to attain certainty, as that is not achievable. We have to make do with probability.

Now, let's take the fundamental case. Forget about gravitation and weird things like that. Think about the motion of billiard balls. One billiard ball bashes into another. We see a white billiard ball moving towards a red one. The two collide. Why do we expect the red one to move? Hume imagines a thought experiment in which Adam, the first man newly created by God, sees one billiard ball moving towards another and is asked to predict what's going to happen. Could he predict it? Well, according to Hume, he couldn't. He's got no experience to call on, so there's no way he can know in advance, without actually experiencing the impact of balls and similar objects, what's going to happen. So, in fact, not only is gravity unintelligible, as we saw last time, many philosophers at the time wanted to say actually even mechanical causation is pretty unintelligible too. We're used to seeing billiard balls bashing into each other, so we think we sort of understand why, but really, there's no understanding to it. It's just habit.

So, the lesson that Newton drew in the case of gravity, and Berkeley generalized as we saw in his instrumentalism, Hume wanted to draw as a quite general lesson of science: that intelligibility is not something that we can reasonably aim for in science. Ultimately, all we have is those systematic laws that codify the way things behave. It's a bit like Malebranche's theory, except without God, which is sort of paradoxical. But Hume wants to say that there is no real glue in nature, or at least nothing that we can remotely understand. All we can do is see how things behave, codify that behavior, and do our science on that basis. Ultimate understanding? Forget it.

Okay, then if all we have to go on is experience, where does that leave us? Where does that leave us in respect to skepticism, for example? Suppose I've seen lots of billiard balls impacting with each other. I've gotten used to the way they behave. Maybe I've done careful investigations and I've come up with some laws that seem to codify the way they behave, conservation of momentum, the law of restitution, that sort of stuff. So, I'm actually able to put this into scientific formulae and work out when one billiard ball moves towards another how in the past that collision would have happened. Does that give me a good reason to suppose that the next collision of billiard balls will work in the same way, will operate according to the same descriptive rules? Well, if past experience is to give me a good reason, it seems that I've got to have some reason for extrapolating from the past to the future, some reason that will justify my taking that past experience as relevant to what's going to happen next. Well, it's not self-evident that that's true. It's not a matter of logic that what's happened in the past should continue in the future. My senses don't tell me anything relevant, that I'm seeing the same motion of billiard balls, but that doesn't tell me what's going to happen after they've collided. And if I try to appeal to experience, it seems that I'm begging the question. I'm taking for granted that experience is relevant to the future. So, we seem to get a very skeptical lesson about induction, about inference from past to future. It seems that we can give no reason at all to justify that. We'll be coming to that in a little bit more detail later.

So, Hume's view on induction seems to take us quite a long way beyond Locke. Locke wanted to say, against Descartes, that we have to make do in science with lack of certainty. When we reason about things in the world, as opposed to logic, there is no certainty to be had. But now Hume is saying it's worse than that. Actually, we cannot give any good reason whatever for supposing that the laws that we've gleaned from past experience will be applicable to what happens in the future. It seems that all of our scientific ambitions, everything, is based on a brute animal instinct. We just naturally think that the future will resemble the past. So, in a certain respect, we know no better position than the dog who, when you go for the lead near the front door, starts jumping up and down with anticipation of going for a walk. Why does it do it? Habit. It associates you going for the lead with going for a walk. It doesn't have any rational insight into the connection between the two. It's just habit. And we seem to be the same with billiard balls.

Now, think about this in the context of the philosophy of the time. We've seen how much of the thinking of the time was imbued with religious thinking. We were seen at the time as creatures made in God's image. Man is the image of God, and the primary instance of that is human reason. Human reason was supposed to be a sort of faint image of God's reason. Just as God can see everything by immediate insight, so we, through mathematics and through science, are supposed to be able to acquire insight into the way the world works, in the same sort of way as God does. We're up there, intermediate between the animals and the angels. We're not merely part of the animal creation. Our bodies may be physical, but our minds are made of immaterial substance, which is quite different in nature. So, we have this view of man as privileged. And Hume's attack on our rational faculties strongly counters that. It puts us back with the animals. It suggests that for all our cleverness, ultimately, our rational faculties have a very earthy foundation in brute animal instinct rather than insight. So, if we want to find out about the way human beings behave, the right way to do it is not by thinking of us as specially rational creatures. Rather, one should find out about the way humans behave by observation, experiment, systematization, generalization. You treat us as part of the natural world. One might suggest that

modern-day economists would do well to learn this lesson. A lot of economic models are based on the assumption of perfect rationality. We've seen recently where that leads us. Hume's lesson is that actually, humans in their behavior are far less rational than they'd like to pretend. Empirical investigation of how people actually work is likely to yield much better results than the assumption that we are perfectly rational.

This lesson goes through to the human free will. Hume, in many ways, follows Hobbes. He's a compatibilist. He thinks free will is compatible with determinism. As part of nature, human action is causally determined. Hume thinks in exactly the same way as billiard balls. Someone who knew all the laws that govern the way we behave would be able to predict reliably what we would do. Free will is simply having the power to do as our will dictates. Now, you might think that that is going to undermine morality. If we are ultimately causal parts of nature, working according to causal laws in the same sort of way as billiard balls, how does morality get any purchase? Well, Hume's answer to that is to found morality on sentiment, on fellow-feeling, empathy for other people. His idea is that we naturally identify with others. When we think about another person's pain, to some extent, we share that pain. Therefore, we have an interest in relieving it. We grow up in families. Families get wider into social groups by mixing together. We learn to care for each other. And we find that codifying rules of behavior makes sense on that basis because we actually feel a passion to do good to others. We are not purely selfish creatures in the way that Hobbes had thought. So, Hume gives morality a basis in our brute human nature. Again, it's not a matter of pure reason. You can't found morality on logic, but you can found it on the way we are as human beings.

So, you can see this is, in many ways, a very modern vision. There's no surprise that Hume, out of all the philosophers of this period, is the philosopher who tends to speak most to the modern predicament. We live in a world in which people do think that the right way to understand human beings is as part of the natural world. Looking back to the 17th and 18th centuries, it's vitally important when you read the philosophers of that period not to forget the elephant in the room: God. Almost every philosophical discussion of the period is informed by religious concerns. They're often not overt, it's often not easy to see them, but behind it all lies these fundamental changes, an earthquake that's going on in the foundations of the view of man and the universe, and the threat of atheism, the threat of heterodoxy, that lies behind a lot of the concerns that the philosophers of the period have.

So, here's a very simplistic big picture. You go back to the medieval period. Physics is governed by natural motions, natural motions that have been put into things by God. God has created stones so that they naturally tend towards the center of the world, planets which naturally tend to want to move in circles. That's replaced in the early modern period by a picture of inert matter, mechanical causation. Things do what they do because of forces acting on them, rather than anything like desires acting within them.

Morality in the medieval period is based on revealed truth and natural law. We can go to the Bible, we can apply our reason to the lessons that we learn from that. But in the early modern period, that consensus gets undermined. We now no longer know whether we should seek

authority in the church traditions or in the individual's reaction to the Bible. So, can we base morality on Revelation when people interpret the revelation in different ways? Can reason fill the void? Should we, like Hume, rely on moral sense or feeling?

Likewise, in politics, in the medieval world, we have the divinely ordained king who should be obeyed for that reason. Confidence in that authority is undermined, not least the religious wars. And so, we get a crisis of authority in politics. How is that to be filled? An appeal to natural right, reason, contract? Hobbes wanted to say that the way to do it is all to get together and make a social contract, erect a sovereign, and then obey the sovereign in order to avoid civil war.

So, you can see that the picture I gave in the first lecture of the crisis that affected the whole intellectual world in the early modern period, we can see that those are problems that echo down to this day. And this is why so many of the problems that we discuss within this course remain of relevance, even though the scientific theories that we have now seem to be a long way away from those that were around in the early modern period. For us, just like them, it seems that the world differs radically from how it appears. Our best theory of the world attributes primary qualities to bodies, with secondary qualities explained through a representative theory of perception. As we've seen in the early modern period, the idea that matter is made of little corpuscles. Very different from what we see. We may see something as a particular color, we may see a tree as brown, but actually what's really there, we think, is little corpuscles whose arrangement gives rise to the sensation of brown in our eyes. The reality and what we see are very different.

Our modern theory attributes different properties to the actual matter of the tree, but the same problem is there. And it invites skepticism. If we can't trust our natural faculties to yield truth directly, if we can't trust them to show us how things really are, then how can we know how they are? Again, if the actions of body are explained mechanically, how does the mind fit in? As science grows in the early modern period, through a purely mechanistic science (now we have more sophisticated stuff like quantum mechanics), it yields a very similar problem. If we think of ourselves as part of the natural world, as constituted by material bodies and brain and so forth, then how does the action of that physical matter tie in with our view of our minds and, in particular, free will? How can we be free if all of our actions are the actions of bodies which are themselves determined or at least conditioned by physical laws? Can free will actually make any sense?

And if one believes in immortality and divine reward and punishment, how can that make any sense? That's a particular problem because of personal identity. If we think of ourselves as constituted as part of nature by material bodies and brains and so forth, does personal identity over time become something that's applicable at all, particularly in the context of religion? Well, we shall see that these sorts of debates echo through those topics in general philosophy. And I hope that when we study those in a bit more detail, you will see how they tie together, all as part of this crisis which is very much the legacy of the early modern period.