

## Chapter 10: Belief in the Brain Machine

*“There is no spoon.”*

-- *“The Matrix”*

We’ve looked at what beliefs are, what they do, and how they’re justified. But that leaves some important questions unanswered:

- What makes beliefs meaningful?
- How can you know if beliefs are true?
- What does it mean for beliefs to be true?

The answers are the subtext of the 1999 movie “The Matrix.” The movie got them from millennia of smart people thinking about the questions. The next few chapters will answer them in more detail. In this chapter, we’ll set the stage to make the answers easier to understand.

What if nothing you perceive is real?

The hero of “The Matrix” is Thomas Anderson, an employee at a software company who spends his nights exploring the Internet as a hacker named “Neo.” He discovers that the world he sees around him isn’t real. It’s only an illusion created by wires attached to his brain. Even his own body, as he perceives it, is an illusion. His real body sits in a pod that extracts energy from it, in a dark chamber that uses billions of human bodies as living batteries.

The same themes were explored by “The Thirteenth Floor,” released the same year as “The Matrix.” Though it was in some ways a better movie, it lacked the action and special effects of its more successful competitor, so it is largely forgotten today.

### Plato’s cave prisoners see shadows

The questions asked by both movies have a long pedigree. In his book *The Republic*, the ancient Greek philosopher Plato (427-347 BCE) told “the allegory of the cave.” For their entire lives, prisoners have been chained in a cave where they face away from the entrance and can’t see each other or themselves. As people outside the cave walk past the entrance, they cast shadows on the wall faced by the prisoners. The shadows are the only reality that they have ever known. The prisoners can hear each other, so they discuss the activities of the shadows, theorize about them, and so forth.

One of the prisoners escapes from the cave and makes his way to the outside. Though at first blinded by the sunlight, he eventually realizes the truth: What he’s seen all of his life and took to be real were only the shadows of people in the real world. He makes his way back into the cave and tells the other prisoners what he discovered. He tells them haltingly and with great difficulty, because even though he’s *seen* the world outside the cave, he has no words to describe it.

The other prisoners don’t understand what he’s talking about. They don’t have any frame of reference for it. All of their ideas come from thinking about shadows on the wall. The ideas of

open space with ground, sky, trees, and sunlight make no sense to them because they can't be translated into shadow-speak. They think that the returned prisoner must be insane.

Plato wanted to know the nature of our world. Is the world real and substantial, or is it like a series of shadows on the wall of our cave?

## Descartes thwarts his evil demon

Two millennia later, French philosopher René Descartes (1596-1650) told a similar story but with a different question. He wanted to discover if he could know anything for certain.

And he had a pretty high standard for what counted as certain. What he perceived with his senses seemed pretty certain – but was it really? In his *Meditations on First Philosophy*, he considered:

*"... for example, that I am here, sitting by the fire, wearing a winter dressing-gown, holding this piece of paper in my hands, and so on. Again, how could it be denied that these hands or this whole body are mine?"*

What if he was asleep and was only dreaming about sitting by the fire? The possibility meant that he couldn't even be certain about what he perceived at the moment.

The situation was even worse: What if he didn't have a body at all, and was only *dreaming* that he did? Sure, it was kind of a goofy idea, but it wasn't impossible. If it wasn't impossible, then it was *possible* that he was mistaken about having a body. The whole world might be an illusion. It was possible that a malicious demon:

*"...has employed all his energies in order to deceive me. I shall think that the sky, the air, the earth, colours, shapes, sounds and all external things are merely the delusions of dreams which he has devised to ensnare my judgement. I shall consider myself as not having hands or eyes, or flesh, or blood or senses, but as falsely believing that I have all these things."*

Was there anything at all that he could know for certain?

Just one thing, he thought: His mind existed, because if he could doubt that his mind existed, then he had to *have* a mind with which to doubt it. Whatever else might be doubted, he existed as a thinking being. He could know that for sure.

*"Cogito, ergo sum!"*

he cried, and leapt to his feet, startling the other patrons of the tavern in which he'd spent the evening.

"Cogito, ergo sum" means "I think, therefore I am." If he was thinking, he had to exist.

Tragedy almost struck a few hours later when the tavern was about to close. The bartender asked, "Would you like another drink, Mr. Descartes?" Descartes pondered for a moment and then replied, "I think not."

*Poof!* He disappeared in a puff of logic. Luckily for us, he reappeared a moment later, laughing. It was one of his favorite party tricks. We know that for certain.

## Reid's common sense strikes back

The story of Descartes would be incomplete if I failed to mention his most perceptive critic, the Scottish philosopher Thomas Reid (1710-1796).

Descartes' argument "I think, therefore I am" is usually considered a pretty good one, but Reid would have none of it.

Reid argued that certain assumptions were necessary for any thought at all. As a result, you couldn't prove them without circular reasoning because in order to prove them, you first had to assume that they were true. Such assumptions included your own existence, the existence of the world, and the laws of logic.

According to Reid, it was crazy to reject such assumptions even if they could never be proven. His book *An Inquiry into the Human Mind* is where we get his juicy critique of Descartes.

*"A man that disbelieves his own existence is surely as unfit to be reasoned with as a man who believes he is made of glass. There may be disorders in the human frame that may produce such extravagances, but they will never be cured by reasoning."*

Reid himself couldn't quite believe that Descartes was serious:

*"Descartes would make us believe that he got out of this delirium by his logical argument Cogito, ergo sum. But it is evident he was in his senses all the time, and never seriously doubted his existence. He takes it for granted in his argument, and proves nothing at all. I am thinking, says he, therefore I am: And is it not as good reasoning to say, I am sleeping, therefore I am? Or I am doing nothing, therefore I am?"*

As we've seen in earlier chapters, these kinds of arguments are *philosophical stories*. Neither Descartes' view nor Reid's can be proven conclusively. One story probably makes more sense to you than the other. Or you might think that since neither story makes a practical difference, it just doesn't matter. For practical purposes, you'd be right. But if you're curious about the world, the dilemma might still bother you a little. It's bothered a lot of people, and it still does.

## Putnam puts brains in a vat

Plato's allegory of the cave gets its contemporary retelling as "the Braino machine."

In this version, nothing you perceive is real. You're actually hooked up to the Braino machine, which creates the illusion of what you take as reality. Wires feed electrical impulses into brain regions that produce sensations of walking around, talking to people, and so forth. However, nothing really exists except your brain and the Braino machine, which was created millennia ago by a long-extinct race of superior beings.

If the machine does its job properly, then its illusory world contains no proof that anything exists outside of it.

How could you know that the Braino story isn't true? And there are more questions:

- If the story *is* true, what does it mean about your beliefs?
- If the story isn't true but *there's no way to find out*, what does it mean about your beliefs?

- Does it even *make sense* to say that the Braino story is true or false?

The best contemporary version of the Braino story comes from the late Harvard philosopher Hilary Putnam (1926-2016). It's the best because Putnam *answers* the questions we just asked.

In Putnam's version, all people's brains have been removed from their bodies and plugged into the Braino machine. In Chapter 1 of *Reason, Truth, and History*, he explains:

*"Suppose that the automatic machinery is programmed to give us all a collective hallucination, rather than separate unrelated hallucinations. Thus, when I seem to myself to be talking to you, you seem to yourself to be hearing my words. Of course, it is not the case that my words actually reach your ears – for you don't have (real) ears, nor do I have a real mouth and tongue."*

You can see how this story is an updated version of Plato's allegory of the cave, and is very similar to the later movie "The Matrix." All of us in the Braino machine seem to perceive the same world, but it's a copy of the real world instead of just shadows on the wall of a cave. We can communicate with each other, but we can't actually see each other or ourselves: we just *think* that we do because the Braino machine creates the illusion.

The only world we know is the world portrayed to us by the Braino machine. When we see a tree, we're not seeing a real tree; we're just getting the result of electrical impulses sent to our brains by the machine. And when we believe that the tree is tall – *what*, exactly, is our belief about? Is it about a tree, because that's what we seem to perceive? Or is it about an illusion?

A lot depends on how we got into the Braino machine and how long we've been there:

- If we are not in the Braino machine and we live in "the real world," then we see real trees, people, and so forth.
- If we are in the Braino machine but previously lived in "the real world," then we *have seen* real trees, people, and so forth.
- If we have *always* lived in the Braino machine, then we *have never seen* real trees, people, and so forth.

If we now or previously lived in the real world, then our ideas about it were derived from real things. Our words and beliefs refer to real things even if we're currently in the Braino machine looking at a series of illusions. In that case, our beliefs about the world are simply *mistaken*.

If we have *always* lived in the Braino machine – like Neo at the start of "The Matrix" – then our ideas about the world were derived from illusions. Our words and beliefs refer to the illusions. In that case, our beliefs about the world are (or can be) *correct*.

As a result, they can never refer to the real world or anything in it. There might not even *be* a real world outside the world created by the Braino machine.

And there's the problem, according to Putnam:

*"... although the people in that world can think and 'say' any words we can think and say, they cannot (I claim) refer to what we can refer to. In particular, they cannot think or say that they are brains in a vat (even by thinking 'we are brains in a vat')."*

To believe that we are brains in a vat requires us to have some concept of a world *outside* the vat. But even our idea of “outside” refers to spatial relationships that we’ve perceived inside the Braino machine. Those perceptions were generated by the machine, not by the real world. If we try to think about what’s outside the reality created by the machine, we still end up thinking about the reality *inside* the machine. Just like the prisoner who escaped from Plato’s cave and returned, we have no language or concepts with which to think about anything outside the reality created by the Braino machine.

For us even to think that our perceptions are illusory and our beliefs mistaken is impossible – because they’re not. When we seem to see a tree, the tree we see is the same kind of thing we’ve always seen when we saw a tree. Our beliefs about the tree are about the same things they’ve always been about. We aren’t wrong.

What we see is *not an illusion*: It’s exactly what we think it is. What we believe is *true*, in the sense relevant for someone who has always lived in the world of the Braino machine.

What if we have no way to know if we’re in the Braino machine or not?

That’s our predicament. By definition, the Braino machine creates an illusion so flawless that it contains no evidence of anything outside it. We might be in the Braino machine right now, but we use the same words, ideas, beliefs, and behaviors as we would if living in the real world.

Our idea of an undetectable real world is a classic example of how foundational descriptions – in this case, the grammar of our languages – affect our view of reality. A belief such as “This apple is red” suggests that in addition to redness, roundness, and all of its other perceivable qualities, there is also an imperceptible *thing* that has the qualities: “this apple.”

The only difference between the Braino world and the real world is that we make an extra assumption. We assume that the real world as it actually exists is beyond anything we can perceive, kind of an undetectable “dark matter” that owns all the properties we *do* perceive.

We might be in the Braino machine, wondering if we’re in the real world; or we might be in the real world, wondering if we’re in the Braino machine. We can’t distinguish between those two cases because their difference lies beyond anything we can perceive or detect.

As a result, all of our words, ideas, beliefs, and behaviors must apply in the same way *whether or not* we are in the Braino machine. All of the conclusions about our beliefs that would apply *in* the Braino machine also apply to us:

- Our ideas are derived from our experienced reality, not from anything outside our experience.
- Our words and beliefs refer to the reality we have experienced or can experience, not to anything beyond it.
- To verify that a belief is true, we look at related experiences and beliefs based on those experiences. We check to see if the belief is consistent with them.
- For a belief to be true means that it accurately describes the experiences to which it refers. Those experiences are shaped by our thoughts and circumstances.

The Braino illusion is like our normal reality in another way. In order for our experience to be at all comprehensible, the machine must make its reality *lawful*. In other words, events must follow

regular patterns (laws) that we can recognize. Water is wet. Touching a hot stove burns our hands. A big rock is heavy. Horses don't stand on their hind legs and sing "The Star-Spangled Banner." In the normal world (assuming that it's where we are), we interpret those regularities as natural laws governing certain kinds of things. Each of those kinds of things has a particular set of properties that makes it what it is. The same applies inside the Braino machine. "Matter" that transcends our perception and understanding is in some ways like the transcendent God: we infer its existence from what we *can* observe and understand. In the case of reality, what we can observe and understand are regularities in nature, in what things are and how they behave.

Without observable regularities in what things are like and how events occur, we would not have a comprehensible world at all. It would be only "welter and waste" (*tohu v bohu*), as Genesis 1:2 describes the chaotic state of the universe before God imposed order to create the world.

## Meaning and truth cast their shadows

The next three chapters look at meaning, evidence, and truth in more detail. But what can we learn from Plato's cave, Descartes's demon, and Putnam's machine?

From Plato and Descartes, we learn that what reality *is* and how we perceive reality are not always the same thing. Our goal is to make our perception of reality more accurate, but our concepts and circumstances can make it more difficult.

From Putnam, we learn that we can't even talk about realities that transcend our experience because we have no language or concepts with which to do it. To test a belief for truth, we look at more experiences. For a belief to be true means that it's consistent with those experiences.

Let's look again at the quote from "The Matrix" that begins this chapter: "There is no spoon."

It turns out that there really *is* a spoon after all. It's just not the kind of spoon we expected.