

Chapter Two

SKEPTICISM

I will suppose then, that everything I see is spurious. I will believe that my memory tells me lies, and that none of the things it reports ever happened. I have no senses. Body, shape, extension and place are chimeras. So what remains **TRUE**? Perhaps just one fact that nothing is certain.

--Rene Descartes

DESCARTES AND THE ARENA OF REASON

It's hard to imagine a thinker more committed to the arena of reason than Rene Descartes. In addition to being one of the most important philosophers in the entire history of western philosophy, he was a groundbreaking mathematician (remember those dreaded "Cartesian coordinates" you hated in high school algebra?), one of the most prominent physicists of his era, and a committed theologian. He counts as one of the true giants of western thought.

He begins his most important work, *The Meditations on First Philosophy*, by sharing a nagging worry.

Some years ago I was struck by the large number of falsehoods that I had accepted as true in my childhood, and by the doubtful nature of the whole edifice that I had based on them.¹

When he speaks of falsehoods he accepted in his childhood, I don't think he's speaking of Santa Clause or the tooth fairy, but simply things that he believed uncritically, on the basis of

authority and common sense, that eventually turned out to be false. The problem wasn't just that he had been misled by the authorities, and tricked by common sense, but that his life's missions – philosophy, mathematics, physics, and theology – were all built on them.

So what to do? He continues with his construction metaphor.

I realized that it was necessary, once in my life, to demolish everything completely and start again right from the foundations if I wanted to establish anything in the sciences that was stable and likely to last.²

Epistemological demolition, just for the sake of demolition, is a pretty silly project. But Descartes is interested in demolition, like much of contemporary urban renewal, for the sake of new construction. He wants new foundations that will allow him more confidence in his philosophical and scientific thinking. He's immediately confronted with two serious problems. What is going to be an efficient method for his demolition (a wrecking ball, bulldozers, or dynamite?) – he has an awful lot of beliefs, after all – and what is going to be his standard for stability once he has cleared the ground and begins his new construction? He answers both these questions with a radical proposal.

Reason now leads me to think that I should hold back my assent from opinions that are not completely **certain** and **indubitable** just as carefully as I do from those that are patently false. So, for the purpose of rejecting all my opinions, it will be enough if I find in each of them some reason for doubt. And to do this I will not need to run through them all individually, which would be an endless task. Once the foundations of a building are undermined, anything built on them collapses of its own accord; so I will go straight for the basic principles on which all my former beliefs rested.³

CONFIDENCE UNDERMINING POSSIBILITIES

Your car is in the shop, but a friend has graciously loaned you her pickup. As you are driving along a long desolate stretch of rural highway you suddenly think about gas. Fortunately, when you look down at the gauge you see that you have almost three-quarters of a tank. You continue your drive peacefully contemplating your planned trip over Christmas break. The next morning your friend calls you with some unsettling news. "I forgot to tell you yesterday when you picked up the truck that the gas gauge is all screwed up. It always reads three-quarters of a tank."

Two things follow pretty directly from this little story. Your reassurance last night on the highway was ill-founded. It may have been psychologically comforting to read the gauge as saying that you had plenty of gas, but you now know that there was no good reason for your confidence. It was merely good luck that you had enough fuel to get home. In addition, reading the gauge in the future will never produce the kind of conviction you felt last night – nor should it.

There are people with a certain kind of intellectual temperament who are called skeptics. A skeptic might have the fleeting worry about having enough gas, look at the gauge and feel relieved, but then start to wonder. "How do I know this gauge works properly?" Even without the friend's call the next morning, the skeptic can work herself into a state of doubt where reading the gauge does not produce the desired intellectual confidence.

One way of reconstructing the skeptic's reasoning is as follows.

1. I can be confident that so-and-so because of such-and-such.

I can be confident that I have plenty of gas because the gauge reads three-quarters of a tank.

2. If this-and-that were true, however, such-and-such would no longer justify my confidence in so-and-so.

If the gauge were broken, however, its reading three-quarters of a tank wouldn't justify my confidence that I have plenty of gas.

3. This-and-that is possible, and I cannot prove that this-and-that is not true.

The gas gauge could be malfunctioning, and I have no proof that it is not.

4. Therefore, since such-and-such cannot be ruled out, I can no longer be confident that so-and-so.

Therefore, since the gauge's being broken cannot be ruled out, I can't be sure that I have plenty of gas.

There are many circumstances where this kind of skeptical thinking is demanded. A salesman calls you on the phone and offers to sell you stock worth over a thousand dollars a share for only a hundred. You damn well better go through something like the following reasoning.

1. I can be confident that the stock is a good deal because the salesman told me so.
2. If he's lying, however, I can't trust him.
3. It's possible that he's lying, and I cannot prove that he's not lying.

4. Therefore, since his lying cannot be ruled out, I can no longer be confident that the stock is worth so much.

One of the oldest questions in philosophy is whether this kind of skeptical reasoning can be generalized across the board. Should our intellectual confidence in so-and-so what our senses tell us, the word of scientists, or whatever be undermined by our failure to rule out some confidence undermining possibility?

DREAMING AND THE EXTERNAL WORLD

Here's a general purpose skeptical argument -- a confidence undermining possibility -- that may well have already occurred to you. What if you're not really reading this, but just having a vivid dream about reading it? Doesn't the possibility of life's being a dream, or any particular instant being a dream, rule out the possibility of any kind of knowledge? Some philosophers have suggested that it might.

One whole school of philosophy claims that the senses must be the ultimate source of all substantive knowledge. Other schools do not insist that the senses must produce all knowledge, there may be other sources as well. All parties agree, however, that the senses are directly involved in most of what we claim to know. That's what makes the dream hypothesis so serious. In one fell swoop it shakes our confidence in everything the senses have to say. You believe that you're in trouble in your philosophy class because of the poor grade at the top of your term paper. But, if it was just a dream, your dream experiences tell you nothing about what your term paper looks like. Concrete examples can be multiplied endlessly. It seems imperative that we find a way of circumventing the dream hypothesis.

Folk wisdom, of course, provides tests for distinguishing waking from dreaming. You can check your conscious state

by pinching yourself, or seeing if your visual experiences are in color. Unfortunately, these tests are psychologically inaccurate. Surely you have enough imagination to pinch yourself within a dream. I have often had dreams where something bad or embarrassing was happening and in the dream I would say to myself, "I wish this was just a dream."

If there are no sure methods for distinguishing waking states from dreaming, as many philosophers have claimed, then the following argument is both seductive and worrisome.

1. I can be confident that there is an external world outside of my mind because of what my senses tell me.
2. If I were dreaming, however, my sense experiences would no longer justify my confidence in the external world.
3. It is possible that I am dreaming now, and I cannot prove that I am not dreaming.
4. Therefore, since all of this being a dream cannot be ruled out, I can no longer be confident that there is an external world.

As bad as all of this seems, there's worse to come.

THE EVIL COMPUTER SCIENTIST

We know that you think you are reading a book about epistemology, considering weird possibilities like life's being a dream, and worrying about how you are going to get tested on this stuff. We apologize for the ruse. We simply couldn't think of any other way to tell you. This has gone on too long; you need to know the truth.

Three years ago last summer you were a passenger on a motorcycle and there was a terrible crash. The driver was killed and you were brought to the hospital alive, but just barely. The doctors quickly determined that you didn't have

much of a chance, but you were put on life support while relatives were notified and decisions could be made.

We need to tell you now about Dr. Malgenius. He was an eccentric polymath with expertise in medicine, neuro-physiology, and computer science. He happened to be spending a year on a fellowship at the hospital to which they brought your mangled body. After it was determined that you would not survive, the injuries were simply too severe, your family was approached about the possibility of harvesting some of your organs for transplants and medical research. At this point Dr. Malgenius came forward with a most unusual request. It turned out that your brain had survived the crash unscathed, and Malgenius wanted to use it to test his new hypothesis. Just before the life support was shut down your brain was surgically removed and placed in an artificial environment. It sits in a vat of circulating nutrient liquid to this day!

We won't go into the details of your former life the promising poetry or the joy in mountain climbing; it's all too sad. What you need to understand is your current situation. Everything – your memories of your childhood, or yesterday, your thoughts, feelings, and emotions, your wishes, hopes, and fears, all of it – is a computer driven illusion. Dr. Malgenius' hypothesis was that a healthy human brain could be attached to his supercomputer, and that a "virtual-life" program could be simulated on the brain-computer system. You are "living" proof of his theory.

All of us involved with this project are sorry. We now see how wrong it was. Just tell us what to do -- we will respect your wishes. Dr. Malgenius is dead and gone. No one here in the lab plays jokes anymore -- making you see with intuitive clarity that $2 + 3 = 5$, or that there are no even primes greater than two, or the like. We can simply let your life program

continue, or we can wipe the memory banks clean. It's your call.

The so-called brain-in-a-vat hypothesis is what we might call the ultimate confidence undermining possibility. It is an updated version of a possibility first considered by the French mathematician, theologian, and philosopher, Rene Descartes. Descartes worried about a god-like "evil genius":

I will suppose therefore that not God, who is supremely good and the source of truth, but rather some malicious demon of the utmost power and cunning has employed all of 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 judgment.⁴

Whether it is stated in a contemporary, science fiction voice, or that of sixteen century academic philosophy, the reasoning here fits the familiar pattern.

1. I can be confident of anything -- science, mathematics, the existence of the external world because of processes of sense experience and logical reasoning in my mind.
2. If I were a brain-in-a-vat, tricked by a team of evil computer scientists, any reasoning or experience would no longer justify my confidence in anything.
3. It is possible that I am just a brain-in-a-vat, and I cannot prove that I am not a brain-in-a-vat.
4. Therefore, since I cannot rule out my being a brain-in-a-vat, I can no longer be intellectually confident of anything.

In one sense, there is absolutely no reason for believing that you are a brain-in-a-vat. I would bet few of my readers have ever considered such a possibility. But in another sense, the hypothesis is a possible one, and one for which there is

no way of demonstrating its falsity. How could you ever tell? What tests could you conduct? Dr. Malgenius is so tricky that he might cause you to think you've come up with some sure argument to defeat this possibility, but that reasoning might itself be one of his tricks. You seem stuck, and so does every other person who has gone through this bit of skeptical reasoning.

CAN I KNOW ANYTHING?

The conclusion to the above argument was that "I can no longer be intellectually confident of anything." Have we really managed to call everything into doubt? Dr. Malgenius can cause us to have any sense experience he wants, he can cause us to think $2 + 3 = 5$ when it really equals 7, he seems to have the power to trick us about virtually anything he chooses.

Descartes, who was initially responsible for most of the arguments that you have read so far, thought that perhaps there was a limit to the powers of the evil genius. Descartes noticed that virtually all of our beliefs about ourselves were open to doubt. Dr. Malgenius tricked you about almost every detail about yourself in the little story above.

I shall consider myself as not having hands or eyes, or flesh, or blood or senses, but falsely believing that I have all of these things.⁵

Could the trick be so perfect that he fools you into believing that you exist, when you don't? We have already seen that he can fool you about how you exist – you're just a brain-in-a-vat after all. But could he cause you to be mistaken about the very fact of your existence? Descartes thought not.

But I have convinced myself that there is absolutely nothing in the world, no sky, no earth, no hands, no minds, no bodies. Does it not follow that I too do not

exist? No: if I convinced myself of something then I certainly existed. But there is a deceiver of supreme power and cunning who is deliberately and constantly deceiving me. In that case I too undoubtedly exist, if he is deceiving me; and let him deceive me as much as he can, he will never bring it about that I am nothing so long as I think that I am something. So after considering everything very thoroughly, I must finally conclude that the proposition, I am, I exist, is necessarily true whenever it is put forward by me or conceived in my mind.⁶

The confidence undermining possibilities discussed above, I hope, were somewhat compelling. But so is the following bit of reasoning. If I am mistaken about what the gas gauge is saying, there must be a me who is mistaken. If I am having a dream about all this stuff, there must be a me who is doing the dreaming. If I am a brain-in-a-vat being tricked by a perfect computer illusion, there must be a me who is fooled by this illusion. In a different work on these same topics, Descartes expressed this insight in the famous Latin phrase, *Cogito ergo sum* -- I think, therefore I am. There must be a me who is doing the thinking anytime I engage in skeptical thinking, and so it appears that one thing remains immune from the confidence undermining possibilities of skeptics.

Skeptics might respond to this last consideration in a couple of ways. The dyed in the wool skeptic might remind us that the Dr. Malgenius was able to trick us about things like $2 + 3 = 5$, and all bachelors being unmarried. Maybe he is causing us to think that it is self-evident that there must be a me in order for Malgenius to fool me, when in fact this thought is utterly fallacious. I, personally, am willing to concede Descartes' point that complete skepticism is ruled out by the *Cogito* argument. But we must remember that we have gained damn little, a technical victory over the skeptic, at best. If all that I can claim to know is that I exist, then all of mathematics, science, and the everyday world is closed off.

But, these are precisely the areas where questions about what we know are the most interesting, and the most important.

THE QUEST FOR CERTAINTY

It is time to take stock of the arguments so far. Have the skeptics really forced us to abandon most of what we previously thought we knew? If you are like me, you're not very happy with this conclusion. Unfortunately, logic and good evidence often lead us to conclusions that we don't like, but have to accept. Is there any hope for salvaging science and common sense as reliable sources of knowledge? Maybe, but first we have to concede some ground to the skeptic.

The intellectual standards of certainty and indubitability have the advantage that the person who insists on them will never be mistaken. Descartes' procedure – sometimes called methodological doubt – is a very effective way of avoiding intellectual error. It may be, however, that the demand for absolute certainty comes at too high of a price. It strikes most of us as extreme to reject all of what the senses tell us, or all of mathematics and logic, because we were able to imagine bizarre confidence undermining possibilities. Perhaps the lesson that we should learn from the skeptic is to set our standards a little more realistically. If insisting on certainty leads to skepticism and I am willing to provisionally concede that it does then we should not insist on certainty.

I am not suggesting that we should not demand some very exacting intellectual standards for those things that we really know. We need stringent criteria for knowledge, but they must be realistic enough to produce some non-trivial examples of genuine knowledge. In the remainder of this book I will argue that a fleshed-out concept of good evidence will allow us to distinguish many instances of genuine knowledge from other intellectual temptations for which we should reserve a healthy skeptical attitude.

ENDNOTES

¹ Rene Descartes, *Meditations of First Philosophy*. Translated by John Cottingham, (Cambridge, UK: Cambridge University Press, 1986), p. 12.

² *Ibid.*

³ *Ibid.*

⁴ *Ibid*, p. 15.

⁵ *Ibid.*

⁶ *Ibid*, pp. 16-7.