

Cartesian Rationalism



René Descartes
1596-1650

Reason tells me to trust my senses

- Descartes had the disturbing experience of finding out that everything he learned at school was wrong!
- From 1604-1612 he was educated at a Jesuit school, where he learned the standard medieval (scholastic, Aristotelian) philosophy.
- In 1619 he had some disturbing dreams, and embarked on his life's work of rebuilding the whole universe, since the Aristotelian universe was doomed.

- “Some years ago I was struck by how many false things I had believed, and by how doubtful was the structure of beliefs that I had based on them. I realized that if I wanted to establish anything in the sciences that was stable and likely to last, I needed—just once in my life—to demolish everything completely and start again from the foundations.” **Meditation 1 (p. 1)**

“... I will devote myself, sincerely and without holding back, to demolishing my opinions.” (p. 1)

How can you demolish your opinions?

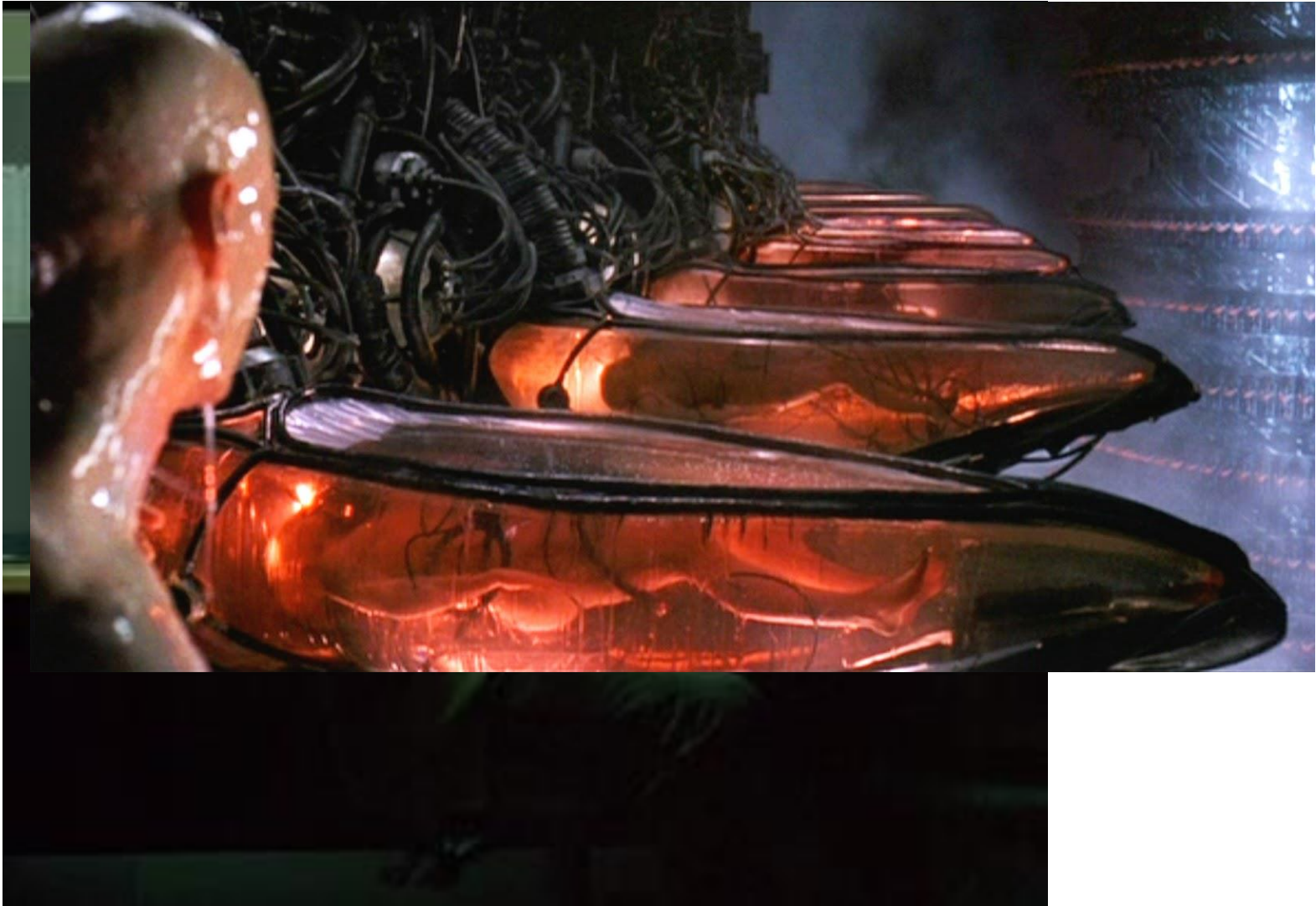
Can you type “FORMAT C: /S” ?

So I shall *suppose* that some malicious, powerful, cunning demon has done all he can to deceive me—rather than this being done by God, who is supremely good and the source of truth. I shall think that the sky, the air, the earth, colours, shapes, sounds and all external things are merely dreams that the demon has contrived as traps for my judgment. I shall consider myself as having no hands or eyes, or flesh, or blood or senses, but as having falsely believed that I had all these things. (p. 3, end of Med. 1)

- Note that Descartes *doesn't believe that this demon scenario is true!!*
- It's rather a *technique*, to “erase his hard drive”, i.e. demolish all his existing beliefs, so he can start over.

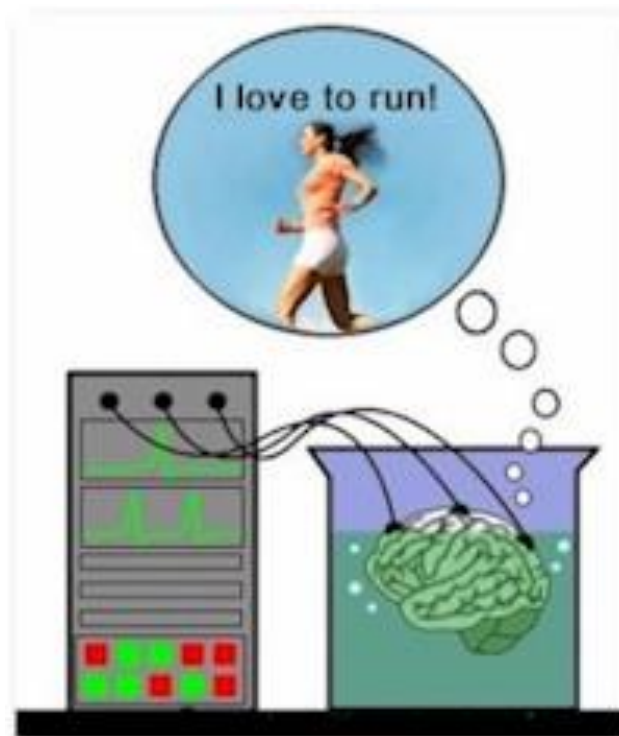
- An important insight of Descartes, concerning the demon scenario, is that one's physical body might be an illusion.
 - This extended, geometrical object, with arms, legs, hair, and so on, *might not exist*.
- One's real body might be quite different; perhaps one is really four-legged, feathered, or completely bald?

- What our real bodies are like?



- *Or perhaps one has no physical body at all!* Isn't it possible that one's self is a purely thinking "substance" (thing) with no geometrical properties like volume and shape?
 - One might be a disembodied soul, receiving fictitious sense experiences from the demon.

Or one could be a "brain in a vat" (Hilary Putnam's version of the demon.)



- Having demolished his old beliefs, Descartes is ready to build again.
- How can he start building? First, he says he needs a foundation, of beliefs that are certainly true, i.e. immune from doubt. Is anything certain?

“I will suppose, then, that everything I see is fictitious. I will believe that my memory tells me nothing but lies. I have no senses. Body, shape, extension, movement and place are illusions. So what remains true? Perhaps just the one fact that nothing is certain!”

2nd Meditation, p. 4

- But no. Surely one thing at least is certain!

“Even then, if he is deceiving me I undoubtedly exist: let him deceive me all he can, he will never bring it about that I am nothing while I think I am something. So after thoroughly thinking the matter through I conclude that this proposition, I am, I exist, must be true whenever I assert it or think it.” p. 4

I am conscious

Non-existent things cannot be conscious

∴ I exist

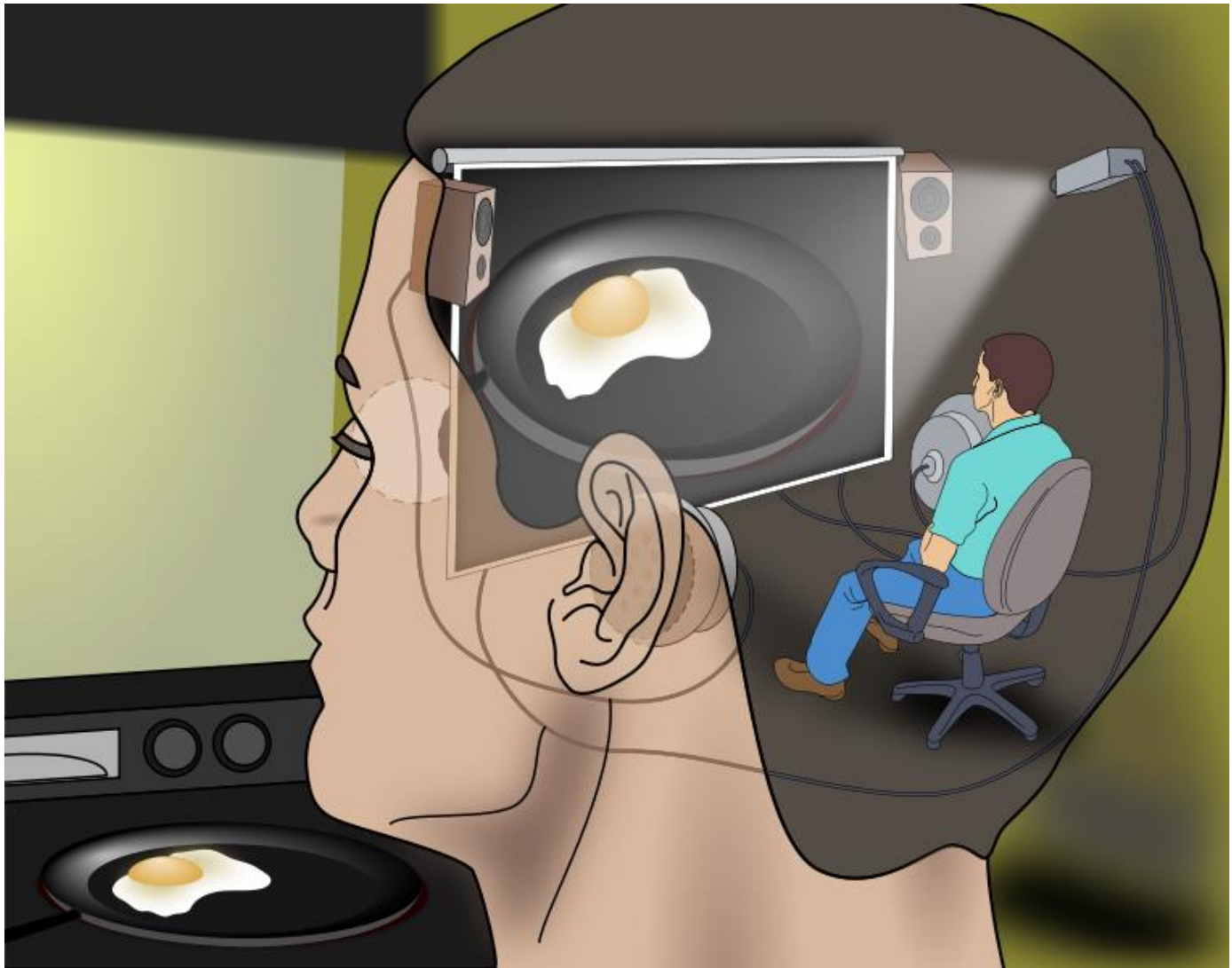
Giulio Tononi: Is consciousness an illusion?



- And what is this “I”, which exists?

“Strictly speaking, then, I am simply a thing that **thinks**—a mind, or soul, or intellect, or reason ...” p. 5

- (This is one of Descartes’ arguments for the soul, which we shall return to later.)
- But even if this is correct, what comes next? Isn’t Descartes going to be forever “stuck in his own mind”?
 - How can he know that something “external” exists?



- Can Descartes know what the *external* world is like?

Now I will look more carefully to see whether I have overlooked other facts about myself. I am certain that I am a thinking thing. Doesn't that tell me what it takes for me to be certain about anything? In this first item of knowledge **there is simply a vivid and clear perception of what I am asserting**; this wouldn't be enough to make me certain of its truth if it could ever turn out that something that I perceived so vividly and clearly was false. So I now seem to be able to lay it down as a general rule that *whatever I perceive very vividly and clearly is true*. 3rd Med., p. 9

N.B. "vivid and clear" is Bennett's translation of "clair et distinct", which is usually rendered "clear and distinct".

- N.B. ‘vivid and clear perception’ is just a metaphor for Descartes. He isn’t talking about vision and hearing. The things that Descartes “perceives” vividly and clearly are logical and mathematical truths.
- Hence when Descartes says that something is clear and distinct, he means that it is *logically obvious*, or something like that.
- (This is an example of the *assurance* we mentioned before – an accessible indication to the “user” that it’s a good belief.)

Trust our cognitive mechanisms?

- Descartes, as we've seen, is deliberately doubting the reliability of *some* of his cognitive mechanisms (sense perception).
- Can he somehow regain trust in his senses?
- And what about the other cognitive mechanisms, such as those that perform rational inferences? Is he doubting the authority of those as well?

But when I turn my thought onto the things themselves—the ones I think I perceive clearly—I find them so convincing that I spontaneously exclaim: “Let him do his best to deceive me! He will never bring it about that I am nothing while I think I am something; or make it true in the future that I have never existed, given that I do now exist; or bring it about that two plus three make more or less than five, or anything else like this in which I see a plain contradiction.” p. 10

(Apparently the assurance that accompanies these logical beliefs is overpowering. “I find them so convincing!”)

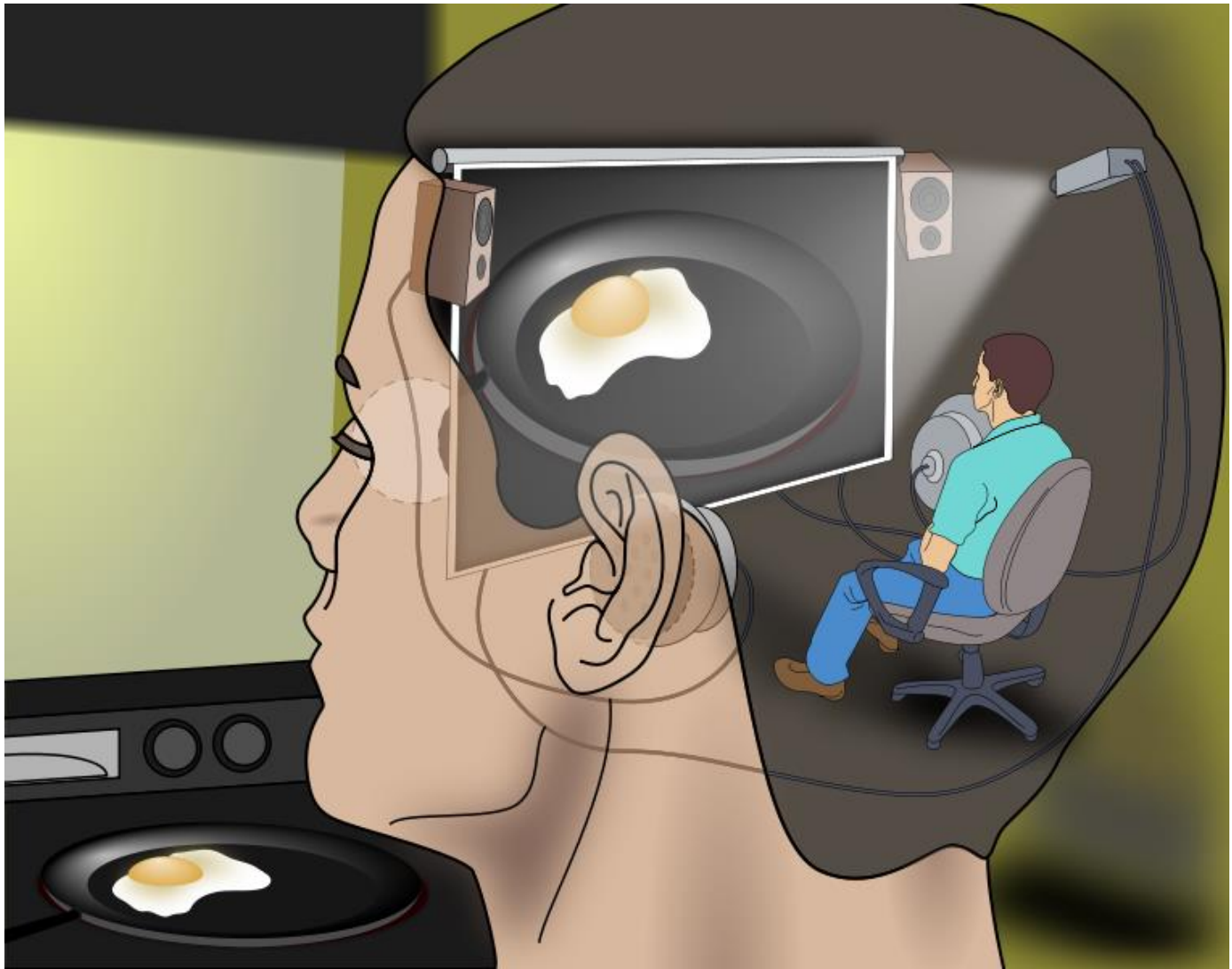
Trust the senses?

- Descartes does feel assurance from the senses, saying: “Nature has apparently taught me to think this” (i.e. to think that the senses are reliable)
- But he doesn’t see a *strong* reason to trust this:
- “When I say ‘Nature taught me to think this’, all I mean is I have a **spontaneous impulse** to believe it, not that I am shown its truth by some natural light. There is a great difference between those. Things that are revealed by the natural light—for example, that if I am doubting then I exist—are not open to any doubt ...” p. 11

(N.B. “natural light” was Aquinas’s term for human reason.)

- You see that Descartes is still trusting his assurance of justification for *some* beliefs , namely those formed by logical and mathematical reasoning. (The “natural light”.)
- What would happen if he doubted those as well?
- Yes, he’d be in a *much* bigger mess.

- But, even trusting in logic, can he find a logical reason to trust his senses?
- Can he regain the external world? Or is Descartes stuck forever in a state where **he knows of nothing in the universe except the contents of his own mind**, and logical and mathematical truths?



- Can Descartes know that **material objects** exist?

“Now it is obvious by the natural light that **the total cause of something must contain at least as much reality as does the effect.** For where could the effect get its reality from if not from the cause? And how could the cause give reality to the effect unless it first had that reality itself?” 3rd Meditation (p. 12)

- (“natural light” was Aquinas’s term for human reason.)
- This ‘causal adequacy principle’ is pretty useful. Basically it says that **Cause \geq Effect.**

“If I find that some idea of mine has so much representative reality that I am sure the same reality doesn’t reside in me, either straightforwardly or in a higher form, and hence that I myself can’t be the cause of the idea, then, because everything must have some cause, it will necessarily follow that I am not alone in the world: there exists some other thing that is the cause of that idea.” pp. 12-13

So there remains only the idea of God: is there anything in that which couldn't have originated in myself?

By the word 'God' I understand a substance that is infinite, eternal, unchangeable, independent, supremely intelligent, supremely powerful, which created myself and anything else that may exist.

The more carefully I concentrate on these attributes, the less possible it seems that any of them could have originated from me alone. So this whole discussion implies that God necessarily exists. p. 14

- For example, Descartes says that the idea of an infinite being could only be caused (ultimately) by an infinite being (not a finite being like Descartes himself).
- (For Descartes, the concept of infinity is a primary one, it is not simply the negation of 'finite'.)

The 'hallmark argument'

“The only remaining alternative is that my idea of God is innate in me, just as the idea of myself is innate in me. It is no surprise that God in creating me should have placed this idea in me, to serve as a mark of the craftsman stamped on his work. The mark need not be anything distinct from the work itself.” p. 17

- (N.B. I mentioned before that many dualists believe in *innate ideas*.)

How does God enable him to trust his senses?

“To begin with, I see that it is impossible that God should ever deceive me. Only someone who has something wrong with him will engage in trickery or deception. That someone is able to deceive others may be a sign of his skill or power, but his wanting to deceive them is a sign of his malice or weakness; and those are not to be found in God.” Meditation 4, p. 18

- *Now we see why God is so important to Descartes: he guarantees the (general) reliability of the senses. (N.B. the ‘faculty of judgment’ is really the same as the ‘cognitive mechanisms’, or belief-forming processes, that people talk about today.)*

Next, I know from experience that I have a faculty of judgment; and this, like everything else I have, was given to me by God. Since God doesn't want to deceive me, I am sure that he didn't give me a faculty of judgment that would lead me into error while I was using it correctly. p. 18

How then do we make mistakes?

Well, then, where do my mistakes come from? Their source is the fact that my will has a wider scope than my intellect has, so that I am free to form beliefs on topics that I don't understand. Instead of behaving as I ought to, namely by restricting my will to the territory that my understanding covers, that is, suspending judgment when I am not intellectually in control, I let my will run loose, applying it to matters that I don't understand. ... That is the source of my error and sin. p. 20

- (similar to W. K. Clifford, and Tesla, “the user is to blame”)

“ontological” argument that God exists

“Just as it is self-contradictory to think of highlands in a world where there are no lowlands, so it is self-contradictory to think of God as not existing—that is, to think of a supremely perfect being as lacking a perfection, namely the perfection of existence.” Med. 5, p. 24

1. God is a supremely perfect being (and so has all the perfections)
2. Existence is a perfection

∴ God exists

Material bodies exist, with 3D form

“God has given me no way of recognizing any such ‘higher form’ source for these ideas; on the contrary, he has strongly inclined me to believe that bodies produce them. So if the ideas were transmitted from a source other than corporeal things, God would be a deceiver; and he is not. So bodies exist.” Med. 6, p. 30

But what about colours? Are they real?

“They [bodies] may not all correspond exactly with my sensory intake of them, for much of what comes in through the senses is obscure and confused. But at least bodies have all the properties that I vividly and clearly understand, that is, all that fall within the province of pure mathematics.” p. 30

- (Since colours are not *mathematical*, they are not “clear and distinct” perceptions, and so there is no divine guarantee of correctness.)

Part 2

What is rationalism?

Rationalism

- Rationalism is an approach to human knowledge (epistemology) that gives innate cognitive structures a kind of *priority* over empirical evidence.
 - “nativism” -- We have *some* innate (inborn) knowledge, and *some* innate concepts as well.
 - Innate knowledge is needed in order to make sense of empirical data. (Empirical data is still needed for *most* of our knowledge, e.g. that caterpillars turn into butterflies.)
 - The world itself is structured by rational concepts, so that reality is comprehensible to the intellect (e.g. Plato, Augustine).

E.g. Causal adequacy principle:

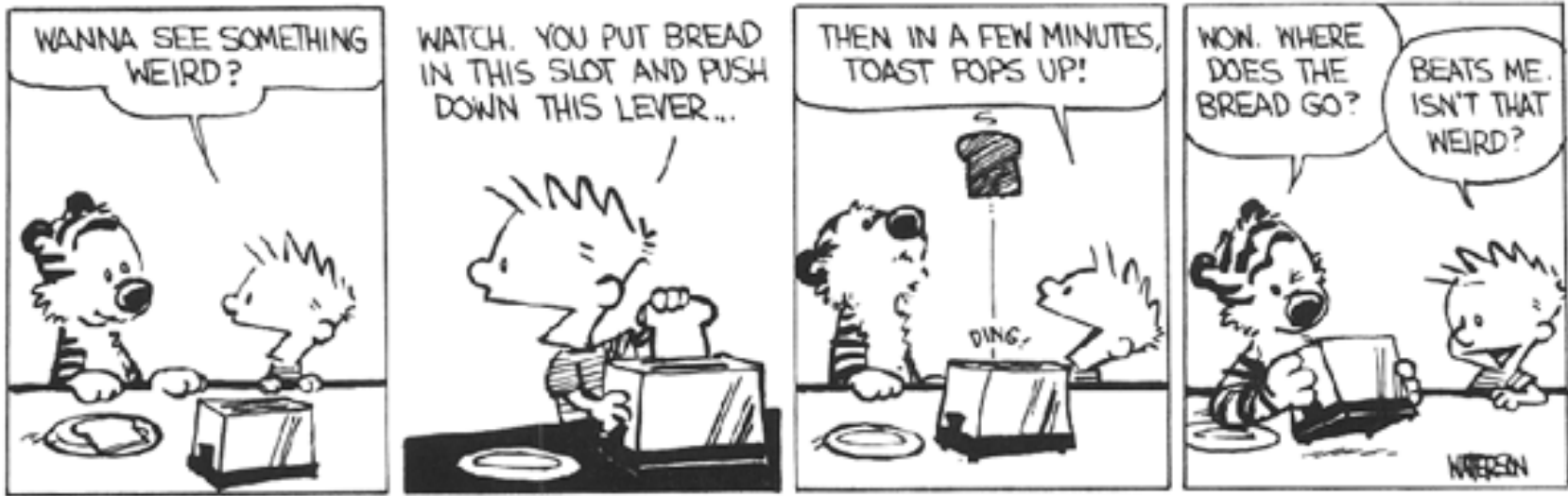
‘the total cause of something must contain at least as much reality as does the effect.’

- Did we learn this from *experience*, according to Descartes?
- No, since we often experience events occurring with no *apparent* cause at all. Only reason can tell us this.
- E.g. Did *experience* tell Plato that the motions of the planets are really simple and uniform?

The innate idea of *substance*

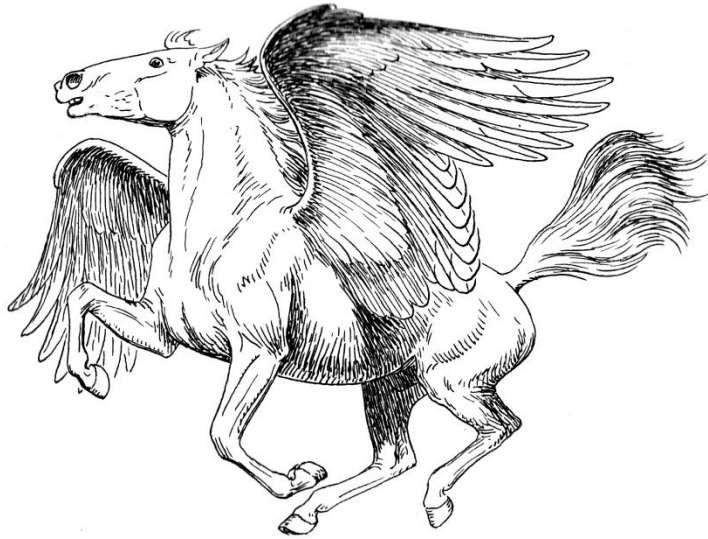
“But as I speak these words I hold the wax near to the fire, and look! The taste and smell vanish, the colour changes, the shape is lost, the size increases ... But is it still the same wax? Of course it is; no-one denies this. So what was it about the wax that I understood so clearly? Evidently it was not any of the features that the senses told me of; for all of them—brought to me through taste, smell, sight, touch or hearing—have now altered, yet it is still the same wax. ...

... I am forced to conclude that the nature of this piece of wax isn't revealed by my imagination, but is perceived by the mind alone.” (Meditation 2, p. 7)



- The idea of a *substance*, or object, as a thing that continues to exist even while its properties change, is considered an innate idea by rationalists.
- After all, we have sensory ideas of the *properties* of the wax, but do not perceive the substance itself.

Pegasus vs. Platypus



One way to think about substance is to consider the difference between real objects and fictional ones. A fictional object is just a set of properties, selected by the author. *Real objects have something extra.* What is it? They have **substance**, or substratum, a *thing* that actually *has* the properties.

Substance and creation

- Imagine God getting ready to create the world.
- He chooses its properties (shape, size, etc.)
- But, so far, the world is just a concept, an *idea* in God's mind. What is required to make it real?

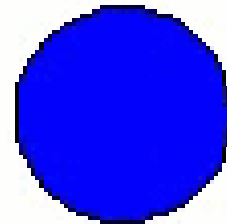
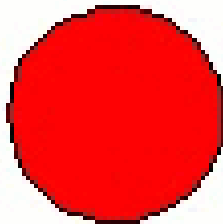
- “Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe for the model to describe. Why does the universe go to all the bother of existing?” (Stephen Hawking, *A Brief History of Time*.)

Rationalist Physics

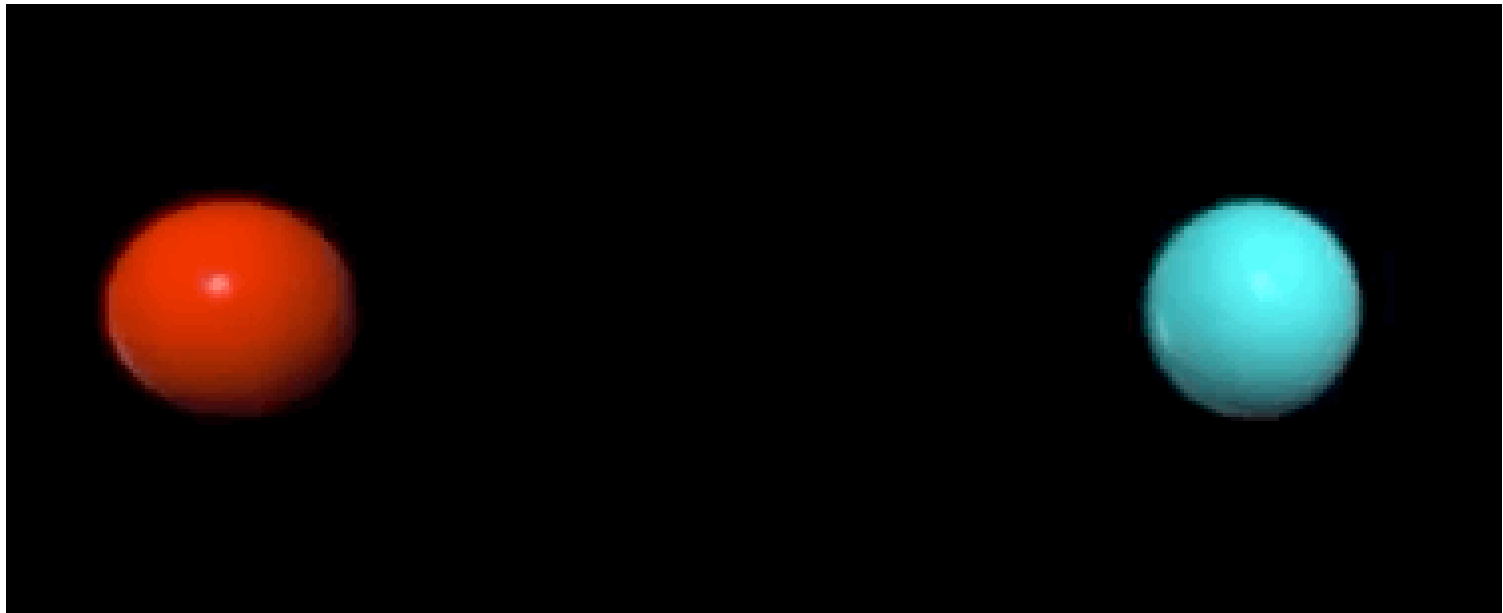
- Descartes was a physicist as well as a philosopher. His physics was also rationalist.
 - I.e. he helped himself to principles known by reason, not learned from experiment.
- E.g. in his **collision laws** he assumed that an initial symmetry in the system will be conserved.
 - (symmetric cause \Rightarrow symmetric effect)

46. The first rule. When two perfectly hard bodies, x and y, of the same size moving at the same speed in opposite directions along a single line collide head-on, they will come out of the collision still moving at the same speed with the direction of each precisely reversed.

(Principles of Philosophy Part 2, §46)



Is *this* rationally possible?



- This is irrational, unless the red ball has many times the mass of the blue one.
- In that case, *there is no initial symmetry.*

Another collision law

49. The fourth rule. if the body C were entirely at rest,...and if C were slightly larger than B; **the latter could never have the force to move C**, no matter how great the speed at which B might approach C. Rather, B would be driven back by C in the opposite direction.

(Principles of Philosophy Part 2, §49)

- (E.g. if a basketball (B) hits a stationary child (C), at no matter what speed, then the child isn't moved at all. The ball just bounces off!)

The senses say otherwise



“And the demonstrations [of the rules of collision] are so certain, that even if experience seemed to show us the contrary, we would nonetheless have to trust our reason more than our senses”

(Descartes, *Principles of Philosophy*, Part 2, §52)

