**Philosophy 203: History of Modern Western Philosophy** Hamilton College
Spring 2015 Russell Marcus

# Class #3 - Minds and the World
## Descartes, Meditations Two and Three

0. Blindsight Video

## I. Seeking Firm Foundations

In the first Meditation, Descartes provides three arguments for doubt which call his beliefs into question: 1. Illusion; 2. Dream; 3. Deceiver.

Each of the three doubts corresponds to a set of beliefs eliminable on the basis of that doubt.

Class I: Beliefs about the sensory nature of specific physical objects, or the existence of distant or ill-perceived objects
Class II: Beliefs about the existence and nature of specific physical objects, and the physical world generally
Class III: Beliefs about universals, like color, and shape, the building blocks of physical objects; and about space and time
  Beliefs about arithmetic and geometry
  Beliefs about logical and semantic truths

In order to rebuild his beliefs, Descartes seeks a single starting point.

> Archimedes sought but one firm and immutable point in order to move the entire earth from one place to another. Just so, great things are also to be hoped for if I succeed in finding just one thing, however slight, that is certain and unshaken (AW 43a-b).

## II. The Cogito

One belief resists doubt.
Whenever I am thinking, even if I am doubting, I must exist.
We call this claim the cogito, which is Latin for ‘I think’.
In a section of the *Discourse* which is not in our collection, Descartes formulates the cogito as, “I think; therefore I am.”
This formulation is misleading, and the version in the *Meditations* is more careful.

The problem with the ‘I think; therefore I am’ formulation is that it makes the claim that one exists look like the conclusion of a deductive argument.

NC NC1. Whatever thinks, exists.
NC2. I think.
NCC. So, I exist.

In deductive arguments, conclusions are established as following from premises according to standard rules of inference.
NC, as a logical deduction, would require previous knowledge of the two premises.
Also, it would require previous knowledge that the conclusion follows from the premises.

Descartes eliminated logical knowledge on the basis of the deceiver doubt.
Thus, the Cogito must not be a logical deduction according to prescribed rules from prior premises.
Descartes calls it a pure intuition.

The cogito is not quite original with Descartes.
St. Augustine presented similar reasoning, in the fifth century CE.
Descartes's use of the cogito is, arguably, original.

The cogito establishes the existence of a thinker, as long as the thinker thinks.

> But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, wills, refuses, imagines, and senses (AW 45a).

## III. The Limits of the Cogito

Descartes concludes from the cogito that he is a thinking thing.
There is not much else that he can conclude, given the doubts.
But we can make a couple of observations.

First, even though I don't know whether my thoughts are true or false, I have direct access to them.
I can know my thoughts in a way that I lack access to the thoughts of others, if there are any others.
My access to my thoughts is somehow privileged.

Second, the doubts infect only my claims about what those thoughts represent.
Our thoughts may not tell us anything true about the world.
But even if our thoughts are false, even if they misrepresent the world, they still appear to us.
My beliefs are indefeasible, as long as we take them to be just beliefs.
Even if there is no table, we seem to sense the table.
The doubts lead us to wonder if we are living in a dream-like world.
That dream world consists of appearances with certain characteristics.
We might be able to learn something by examining our thoughts as long as we remember that we should not take them as representing the world.

Note Descartes's distinction between sensing and seeming to sense.
We can not, at this point, claim to be sensing if we take sensing to be a relation between ourselves and an external world.
In contrast, ideas can not be false if we consider them only as images in our minds.
We can get certainty about our beliefs as they exist inside our minds.
The next step in the *Meditations* consists in examining these thoughts and seeing if they have any character which will help us make any conclusions beyond our thoughts.

Descartes proceeds to see what he can infer about himself.

> But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, wills, refuses, and that also imagines and senses (AW 45a)

We can distinguish a few mental faculties, in addition to sensing (i.e. seeming to sense).
We have an imagination, our capacity for representing or beholding sensory images, whether they

represent anything outside of ourselves.
(Be sure to understand Descartes's use of 'imagination'; it's not about fantasizing.)
We have a capacity to make judgments, to affirm or deny, or to doubt.
We also have capacities for willing and refusing, and emotions, like happiness.
Beyond discovering or affirming these capacities, we can conclude little else from the cogito.

## IV. The Nature of Bodies: the Story of the Wax

Blocked by the doubts, Descartes takes another approach.
He considers the physical objects he does not yet know exist (since they are still subject to doubt).
To do so, he relaxes the doubts, temporarily.

We generally think that our knowledge of physical objects is the result of sense experience.
We see a chipmunk, perhaps represent it to ourselves in imagination, and then we know about the chipmunk.
Descartes claims that this conclusion is an error.
At the end of Meditation Two, he claims that our knowledge of bodies (if there are any) comes from pure thought, rather than sensing and imagining.

> I now know that even bodies are not, properly speaking, perceived by the senses or by the faculty of imagination, but by the intellect alone, and that they are not perceived through their being touched or seen, but only through their being understood (AW 47a).

This odd and provocative claim is the conclusion of the Meditation Two discussion about a ball of wax.

Consider a ball of wax in two distinct states, 45b.
First, it is cold, hard, yellow, honey-flavored, and flower-scented.
Then, after it is melted, the wax becomes hot and liquid, and loses its color, taste, and odor.
In short, all of its sensory properties have changed.
We have images of the wax, in several incompatible states.
But we do not have an image of what the wax is, independent of these mutable appearances: the essence of the wax, or wax in general.
Such an image would have to represent to us all the possible states of the wax.
Our knowledge of bodies, as they truly are, must therefore be distinct from our sensory images of them.

> I grasp that the wax is capable of innumerable changes of this sort, even though I am incapable of running through these innumerable changes by using my imagination... The perception of the wax is neither a seeing, nor a touching, nor an imagining...even though it previously seemed so; rather it is an inspection on the part of the mind alone (AW 46a).

Here is Descartes's argument that knowledge of the world comes from the mind alone.

W
W1. Knowledge must be firm and lasting.
W2. What we get from the senses is transient and mutable.
W3. So our senses do not give us knowledge.
W4. We do have knowledge about the wax.
W5. Knowledge which does not come from the senses must come from the mind alone.
WC. So, our knowledge of physical objects must come from the mind alone.

Descartes might be accused of cheating in W in two ways.
First, he can not conclude anything about our knowledge of physical objects, since we don't even know that physical objects exist.
His conclusion, though, is really conditional: if we have any knowledge of physical objects, then it can not come from the senses.
Notice that if my interpretation of Descartes's work is correct, and the doubts are not really to be taken seriously, then this objection is moot.

The second possible cheat concerns whether the wax is the same before and after melting.

> Does the same wax remain? I must confess that it does; no one denies it; no one thinks otherwise (AW 45b).

Descartes here neglects a view on which any change in the properties of an object entails a change in the object itself.
This view is controversial, but it has defenders.
Heraclitus is reported to have said that one can never step in the same river twice.
Since our material constitution is always changing, we are different people at different times.
The wax is different before and after melting.
The Heraclitean view, though, will not get Descartes any "firm and lasting" knowledge.
So, we will put it aside.

It remains for us to distinguish between the real and the apparent properties of objects.
(If there are no objects, then all properties will be merely apparent.)
Real properties of objects will have to be lasting.
All of the sensory properties of objects are subject to changes like those we saw with the wax.
Thus, the real properties have to be somehow behind or underneath the sensory properties.
They must be available to our understanding without first appearing in our imagination.
Descartes concludes that the real properties of the wax must be apprehended by the mind alone.

Descartes's conclusion is consistent with the Galilean view of the the world as consisting of objects with various appearances.
According to the new science, the wax is just a body which can take various manifestations, hot or cold, sweet or tasteless, etc., but is identified with none of these particular sensory qualities.

> Perhaps the wax was what I now think it is: namely that the wax itself never really was the sweetness of the honey, nor the fragrance of the flowers, nor the whiteness, nor the shape, nor the sound, but instead was a body that a short time ago manifested itself to me in these ways, and now does so in other ways... Let us focus our attention on this and see what remains after we have removed everything that does not belong to the wax: only that it is something extended, flexible, and mutable (46a).

Bodies are things that can have sensory qualities, but which need not have any particular ones.
The same object may have many different appearances.

Galileo, Newton, and Locke, as we will see, hold closely related versions of this claim.
Berkeley will disagree.

## V. Descartes's Metaphysics

Since we have put aside the doubts for a moment, it might be useful here to limn Descartes's metaphysics. According to Descartes, there are three types of substances:

S1. God (infinite mind);
S2. Persons (finite minds); and
S3. Extended objects (bodies).

Of course, at this point in the *Meditations*, Descartes has not yet concluded the existence of anything except one instance of S2.
But, it will be handy to keep this list in mind.

## VI. Strong and Weak Claims About the Role of the Senses in Knowledge

Descartes's claim that knowledge of the world, if there is any, must come from the mind alone seems ambiguous between two positions.

There is a weak claim, that the senses are insufficient for knowledge.
On the weak claim, we use the senses to gather information, and in conjunction with reasoning, which is purely mental, we arrive at knowledge.
The weak claim is fairly uncontroversial.
We seem to have some cognitive ability beyond sensation, reasoning or pure thought, which helps us know about the wax.

Descartes asserts a stronger claim: any knowledge of the external world, of bodies, comes from the intellect (or mind) alone.
While the weaker claim is more plausible, Descartes's point is that any information we get from the senses does not rise to the level of knowledge.
Sensory information is insufficient.
We can believe that the chair is blue, but we can never know this sensory belief.
Further, we know that the wax can take more forms than we could possibly imagine: more shapes, more sizes.
There might be colors and odors beyond our ability to sense.
Our knowledge that there are other potential shapes and colors goes beyond anything that could come from the senses.

We have two different types of beliefs about the wax.
First, we believe that it has a particular shape, color, and other sense properties.
These first ideas are sensory, but they are not knowledge.
The second type of belief is that the wax can take on innumerably many different forms.
This is not a sensory belief.
It is knowledge.

## VII. The Priority of Mind

The title of the Second Meditation asserts that the mind is known better than the body.
While we can doubt everything we believe about bodies, we can not doubt (on pain of contradiction) the cogito.
Descartes's presentation of the *Meditations* follows this order: we first know minds, then bodies.
Even though we don't know about bodies, at this point in the *Meditations*, we can make some conclusions about our minds.
In fact, Descartes's argument that bodies exist does not come until the Sixth Meditation.

Our investigation into the wax led to hypothetical conclusions about bodies: if there are any bodies, this is what they, and our knowledge of them, would be like.
Even on the relaxed supposition that there are bodies, we attain actual knowledge of our minds.

> There is not a single consideration that can aid in my perception of the wax or of any other body that fails to make even more manifest the nature of my mind (AW 47a).

All of the reflections about hypothetical bodies bring us back to our minds, and improve our understanding of them.
This order, of minds before bodies, is intended, by Descartes, not merely as a structure of exposition.
He believes that it reflects the natural order of our beliefs.
We can know a lot more, and more securely, about minds than about bodies.

## VIII. The Criterion for Knowledge

The goal of the *Meditations* is firm and lasting knowledge.
As I noted, Descartes's concept of knowledge is strong, perhaps even including a KK thesis: if we want knowledge, we have to know that we know what we know.
It at least connects knowledge with an inability to doubt..
In order to establish that we know something, we need some kind of mark, or rule, which enables us to separate knowledge from mere belief.
We only know one thing, so far: the cogito.
We can examine it to see if we can find such a mark.

> Surely in this first instance of knowledge, there is nothing but a certain clear and distinct perception of what I affirm. Yet this would hardly be enough to render me certain of the truth of a thing, if it could ever happen that something I perceived so clearly and distinctly were false. And thus I now seem able to posit as a general rule that everything I very clearly and distinctly perceive is true (AW 47).

What could these terms 'clarity' and 'distinctness' mean?
Elsewhere, Descartes writes:

> I call a perception 'clear' when it is present and accessible to the attentive mind - just as we say that we see something clearly when it is present to the eye's gaze and stimulates it with a sufficient degree of strength and accessibility. I call a perception 'distinct' if, as well as being clear, it is so sharply separated from all other perceptions that it contains within itself only what is clear (*Principles of Philosophy* I.45).

Descartes's use of 'perception' is not limited to sense perception.
As the reflections on the wax show, we can not even see clearly and distinctly with our senses at all.
Clear and distinct perceptions come from the mind.
Indeed, it is better to think of the criterion as one of clear and distinct conception.

Later in the Meditations, Descartes refers to the light of nature as a guarantee of truth.
The light of nature is to be distinguished from instinct, or being taught by nature.

> Whatever is shown me by this light of nature, for example, that from the fact that I doubt, it follows that I am, and the like, cannot in any way be doubtful. This is owing to the fact that there can be no other faculty that I can trust as much as this light and which could teach that these things are not true (AW 49a).

Perhaps the specific formulation of the criterion is not important.
What is important is that there be some distinguishing mark.
Without such a mark, all searching for knowledge, on Descartes's terms, is fruitless.

But there is a problem with any formulation.
Given any mark, or rule, for certainty, how do we know that we have the correct mark?
Appeal to the mark itself is circular.
We can not say that we clearly and distinctly perceive that clarity and distinctness is the right criterion without begging the question.
Later, Descartes will argue that the goodness of God will secure the criterion of clear and distinct perception.
But that argument seems to rely on the use of the criterion in the argument for the existence of God.
This problem, called the problem of Cartesian circularity, is one of the more vexing and interesting in Descartes scholarship.

I believe that Descartes did not believe that circular reasoning is always fallacious.
That is one way to ascribe sincerity to the passage about scriptural circularity in the letter of dedication.
And it rescues the rhetorical structure of the entire *Meditations*.

Whatever the fate of Descartes's project regarding circularity, the cogito does seem to contain some kind of undoubtable truth.
If we can grasp what it is that makes the cogito unassailable, perhaps we can find such surety elsewhere.

## IX. Some Notes on Descartes's Method, Including an Extended Discussion of Euclid's *Elements*

Note: this section of the notes contains quite a bit of discussion that both is ancillary to our central concerns and presupposes that we have read more of the *Meditations* than we have, so far.
It will be useful in our discussion of Spinoza, as well as that of Descartes.

We can compare Descartes's methodology with that of axiomatic sciences, like geometry.
In geometry, and all foundational systems, we start with two elements:

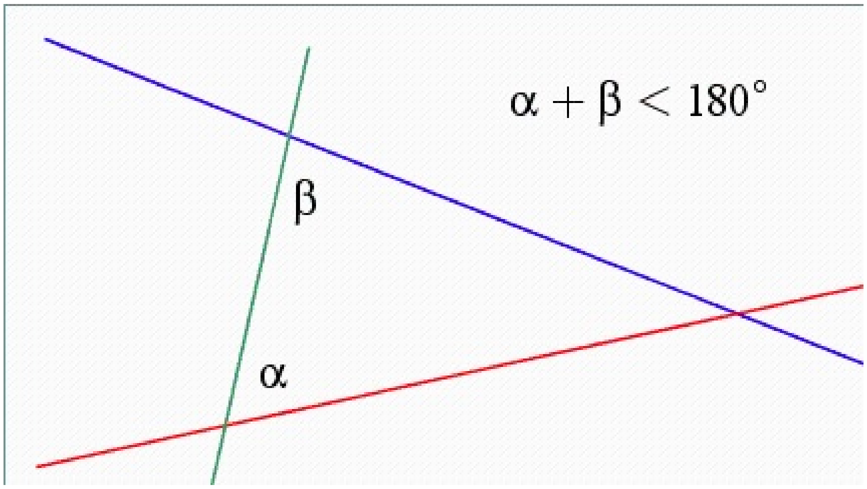
F1. Basic axioms, or undisputable truths; and
F2. Rules of inference which allow us to generate further theorems on the basis of already established ones.

In addition to F1, one might introduce some definitions.
And, one might distinguish the axioms in importance.
But, F1 and F2 are really the core; with just F1 and F2, we have a foundational system.
Descartes gives a synthetic presentation of the content of the *Meditations*, which I have assigned for next week, in the Second Replies.

The synthetic presentation follows the structure of Euclid's *Elements* precisely.
Spinoza's *Ethics* also follows the synthetic, or formal, method I described.

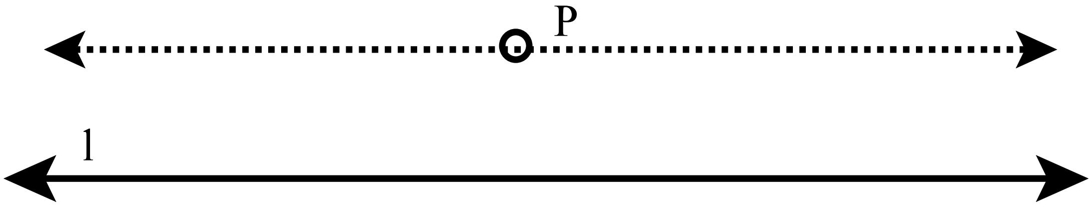
To better understand the structure of such systems, it might be useful to look at Euclid's *Elements.*
I'll discuss that presentation just a bit here, since we won't discuss it in class.
There is an excellent, perspicuous version on line.

*The Elements* starts with definitions, adding five geometric postulates and five more general logical axioms, or common notions.
From the postulates and axioms, all the remaining propositions are derived.
The definitions do not assert the truth or existence of any of the objects to which they refer.
For example, Definition 12 says that an acute angle is an angle less than a right angle.
But, it does not claim that there are any acute angles or right angles.
The common notions are not particularly geometric; they are more properly called logical.
To call the common notions into question would be appropriate in a Cartesian project of founding all of our knowledge.
But, since the logical axioms apply so broadly, any questions about them would not be worries about the geometry of the Euclidean project, but about our beliefs more generally.
So, concerns about the foundational project of *The Elements* really focuses, first, on the status of the geometric postulates, and, second, on the derivations of the myriad propositions from the definitions, postulates, and common notions.
Geometers and philosophers have studied both questions for millennia.
In particular, the fifth postulate, the parallel postulate, tuned out to be not quite as secure as the others.
Indeed, Euclid seems to have recognized worries about the parallel postulate, since he does not invoke the fifth postulate freely; he waits until he absolutely requires it.



Euclid's parallel postulate states that if a straight line falling on two straight lines makes the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet (on the side of the first line on which the angles less than the two right angles lie).

We frequently study the parallel postulate in an equivalent form, known as Playfair's postulate, which says that given a line, and a point not on that line, there exists exactly one line which passes through the given point parallel to the given line.



Both the parallel postulate and Playfair's postulate are equivalent to the claim that the sum of the angles of a triangle is 180 degrees (pi, in radian measure).

But consider an interstellar triangle, formed by the light rays of three stars, whose vertices are the centers of those stars.
The sum of the angles of our interstellar triangle will be less than pi, due to the curvatures of space-time corresponding to the gravitational pull of the stars, and other large objects.
In other words, space-time is not Euclidean, but hyperbolic.
In hyperbolic geometry, instead of there being one line that we can draw parallel to the given line in Playfair's postulate, there are an infinite number of lines.

Hyperbolic geometry is just one of two classes of non-Euclidean geometries.
Riemannian, or spherical, geometry, results when one replaces Playfair's postulate with the claim that there are no lines parallel to the given line.
Non-Euclidean geometries were developed in detail in the nineteenth century after two millennia of trying to prove the parallel postulate from the other postulates.
Geometers were uncomfortable taking the parallel postulate as a given.
They wanted to derive it from other givens, but found that they could not.

The synthetic version of the *Meditations* is based precisely on Euclid's *Elements*.
Like Euclid, Descartes provides definitions, postulates, common notions, and derived propositions.
The resulting system looks different from the one in the *Meditations*, though the derived propositions are the same.
Descartes starts with a set of definitions:

> thought, idea
> objective reality, formal reality
> substance, mind, body
> God, essence, distinctness

In the definitions of objective and formal reality, Descartes sets up the proofs of God's existence to which we will turn, shortly.
Already in the definitions, though, we can find some worries about Descartes's positive project of reclaiming our knowledge.
If, as in *The Elements*, the definitions do not beg questions of existence, then we can proceed to examine the postulates.
In contrast, if the definitions already assume the existence of anything, then the whole project is suspect.

Some definitions are not at all contentious, and, like Euclid's definitions, avoid raising questions of whether any objects have the properties defined.
For example, consider Definition X:

> Two substances are said to be really distinct from one another when each of them can exist without the other (AW 73a)

Definition IX is worrisome.

> When we say that something is contained in the nature or concept of something, this is the same as saying that it is true of that thing or that it can be affirmed of that thing (AW 73a).

This definition will be central to the ontological argument for God's existence in Meditation V.
We will look at that argument in our next class; see the course website for some further readings on the ontological argument.

It is worth noting that Definitions I and II have proved to be particularly contentious.

> By the word "thought" I include everything that is in us in such a way that we are *immediately aware* of it... By the word "idea" I understand that form of any thought through the immediate perception of which I am *aware* of that very same thought (AW 72a).

The possibility of unconscious thoughts undermines these definitions.
Freud, Adler, and Jung aside, contemporary cognitive scientists are interested in phenomena like blindsight, in which visual processing occurs unconsciously.

Descartes takes seven postulates in the synthetic presentation:

1. Frailty of the senses
2. Security of pure thought
3. Self-evidence of logic, including the logic of causation (but see the Common Notions, as well)
4. Connection between ideas and objects (compare to Definition IX)
5. The idea of God includes necessary existence.
6. Contrast between clear and distinct perception and obscure and confused perception
7. Security of clear and distinct perceptions

He takes ten common notions:

1. We can ask about the cause of any thing.
2. Each instant is independent of every other, so that creation and preservation are indistinct.
3. Nothing can be uncaused.
4. Whatever reality is in a thing is formally or eminently in its first cause.
5. Our ideas require causes which contain formally the reality which exists objectively in the ideas.
6. There are degrees of reality: accidents, finite substances, infinite substance.
7. Our free will aims infallibly toward the good.
8. Whatever can make what is greater can make what is less.
9. It is greater to create (or preserve) a substance than an accident.
10. The ideas of all objects contain existence; only the idea of a perfect object contains necessary existence.

Then, he derives his central propositions:

1. Ontological argument for God's existence
2-3. Causal arguments for God's existence
4. Distinction between mind and body

Notice that the foundation in the Second Replies is quite different from that in the *Meditations*.
In particular, the cogito is almost completely absent from the synthetic presentation.
If we were to sketch the foundation as presented in the *Meditations*, it might look:

Cogito - God - Clarity and Distinctness - Free Will - Mathematics - Mind/Body distinction

The synthetic version hardly mentions mathematics or the cogito, and the order is different.

Remember that Descartes is presenting what he takes to be obvious and incontrovertible definitions and first principles as the foundation of all that will follow.
These first principles are, as Euclid's postulates, supposed to be given to us immediately.
Any worries about presuppositions in the synthetic presentation are probably worth pursuing, and might make a good paper topic.
For now, we will put these aside, and return to our central concerns.

Descartes has given us a starting point for the *Meditations*: the cogito.
And now he has a rule for generating more truths: clear and distinct perception.

## X. The Resemblance Hypothesis and False Judgment

Before Descartes uses his new tool of clear and distinct perception he tries to account for the false judgments which led him to write the *Meditations*.
According to the discussion of the wax in Meditation Two, we know about objects through the mind alone.
The only properties we can ascribe to them are extension and mutability.
That is, they are in space and time, and can take more forms than one can imagine.
Moreover, the source of at least some of my errors is in believing that sensory experience leads to knowledge.

The central claim underlying beliefs in the veracity of sense experience might be called the resemblance hypothesis.
The resemblance hypothesis says that my ideas of objects resemble the objects as they are in themselves.
We can take the resemblance hypothesis to be an Aristotelian claim.
Aristotle had taken sensory qualities to be properties of external objects.
He believed that perception occurs when our sense organs change to be like the world around us.
Our bodies are enformed by the properties (or forms) of the objects we perceive.
The redness and sweetness of an apple are real properties of the apple itself.
I see the apple as red because my eye itself is able to change to red.
Our senses are thus attuned to the external environment.
When we see a yellow lemon, our eyes become yellow; when we taste its bitterness, our taste buds become bitter.

> What can perceive is potentially such as the object of sense is actually (Aristotle, *De Anima* ii 5, 418a3-4).

On the Aristotelian view, our ideas resemble their causes.
Objects really have the properties that we perceive them to have.

Descartes rejects the resemblance hypothesis.
His rejection of the resemblance hypothesis is related to his general project of replacing Aristotelian accounts of our knowledge and the world with views consistent with the new science.
By the time of Descartes's writing, it was difficult to see a way to make the Aristotelian view plausible.
Advances in biology and physiology raised serious worries about the doctrine of enformation.
More importantly, a core claim of Galilean physics is that all causes are impetus, like the collisions of billiard balls.
According to Galileo, interactions of particles are limited to transfers of momentum.
Nothing could be given to us by external objects, except their motions.
In particular, we can not be given sense properties like taste or color.

It is thus a fundamental principle of the new science that objects as we experience them may be very different from how they are in themselves.
Physical objects are essentially extended things, made of parts which may or may not be in motion, both together and relative to each other.
Depending on how its parts, the atoms, unite and move, an object affects us in different ways.
Their arrangement, along with our sensory apparatus, determines how we experience an object.
The same object may have many different appearances.
The arrangement of particles in a lemon reflects the light from its surface so I have a yellow experience.
Another person, or an alien with a radically different sense apparatus, could have different visual sensations of the same object.

The distinction between the real properties of a physical object, how it is in itself, and how the object appears through our senses is sometimes called the primary/secondary distinction.
Locke argues for a primary/secondary distinction, as we will see later in the term.
Berkeley rejects the primary/secondary distinction, as we will also see later.
Descartes's discussion of the wax is an argument for the primary/secondary distinction.
Galileo argues for the distinction on analogy with a feather which might tickle us.

> When touched upon the soles of the feet, for example, or under the knee or armpit, it feels in addition to the common sensation of touch a sensation on which we have imposed a special name, 'tickling'. This sensation belongs to us and not to the hand. Anyone would make a serious error if he said that the hand, in addition to the properties of moving and touching, possessed another faculty of tickling, as if tickling were a phenomenon that resided in the hand that tickled (Galileo, *The Assayer*, 275).

No one thinks that the tickle is in the feather.
Similarly, we should not think that the color, or odor, or taste, or heat, is in the object which we perceive as colored, odored, tasty, or hot.
All of these properties are just the result of contact between our sense apparatus and a real object with primary qualities.
They are not, as Aristotle would have, the result of our senses being changed to match the object.
Physical objects are just particles in motion, and they communicate this motion to us.

Descartes argues for the Galilean view in *Le Monde*, using an analogy with words.
A word, like ‘Rene’, can make us think of something that is nothing like a word, like Rene.
Similarly, sensations, like my conscious experience of red, can make me think of something, like an apple.
There is no need to think that the apple resembles my conscious experience of red.
We might call whatever is in the apple that makes me see it as red a dispositional property.
A dispositional property is nothing more than a particular arrangements of particles.

> [Sound is] nothing but a certain vibration of the air which strikes our ears (*Le Monde*, AT XI.6).

If my experience of sound really resembled the sound, then I would hear motion, not music.

Descartes believed that physical objects have extension as their essence.
Extension is mathematically describable, as is motion.
The mathematical nature of both extension and motion were essential to the Galilean view of the world.

> Philosophy is written in this grand book, the universe, which stands continually open to our gaze. But the book cannot be understood unless one first learns to comprehend the language and read the letters in which it is composed. It is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures without which it is humanly impossible to understand a single word of it; without these, one wanders about in a dark labyrinth (Galileo, *The Assayer*).

Similarly, Descartes writes that the only principles he needs are mathematical.

> The only principles which I accept, or require, in physics are those of geometry and pure mathematics; these principles explain all natural phenomena, and enable us to provide quite certain demonstrations regarding them (*Principles of Philosophy* II.64).

Thus, extension and motion are real properties of physical objects; sense properties are unreal.

‘Nominalism’ refers to the claim that some words are merely names and do not denote real objects or properties.
We are all nominalists about fictional objects, like the Tooth Fairy.
Some people are nominalists about numbers.
Galileo and Descartes are nominalists about sense properties, what Descartes calls the content of our imagination.

Still, for many people, especially those who resisted Galilean physics, the essence of the Aristotelian view, the claim that our perceptions match the nature of the outside world, persisted.
Descartes presents an argument for the resemblance hypothesis that captures the essence of the old Aristotelian view.

RH RH1. I have ideas about objects involuntarily.
RH2. Involuntary ideas come from outside of me.
RH3. Objects send me their own likeness.
RHC. So, my ideas resemble their causes, i.e. physical objects.

When you reject an argument, as Descartes rejects RH, you should determine which premises are false.
Descartes accepts RH1, although he says that those ideas can lead one astray.
Descartes provides arguments against both RH2 and RH3.

Against RH2, Descartes argues that we may have an unnoticed ability to create images.
As with dreams, we may create these ideas without realizing that we are doing so, and mistakenly infer that they arise from external causes.
Or we may have another faculty for making these sensations.
Imagine a race of people much like us, but who, instead of making noises with their vocal cords, merely moved those cords in such a way that others could produce (in themselves) the auditory images (sounds) intended by the so-called speaker.
(You might ask yourself how this odd race differs from humans.)
In such a case, the involuntary idea (the sound) would come from inside me, rather than from outside me.
Still, part of the cause would be external.

The argument against RH3 is more important than the argument against RH2.
Against RH3, Descartes provides the example of the sun.
The senses tell us that the sun is very small.
We reason that the sun is very large.

> Both ideas surely cannot resemble the same sun existing outside me; and reason convinces me that the idea that seems to have emanated from the sun itself from so close is the very one that least resembles the sun (AW 49a-b).

We decide in favor of reasoning, and against sensation.

We have discovered a reason for making errors: reliance on the resemblance hypothesis.
Notice that the arguments against the Resemblance Hypothesis are independent of the three doubts.
The arguments against RH remain even if we ignore the exaggerated doubts.
So, we should look at our ideas, and see if we can delete the ones which depend on the resemblance hypothesis.
Maybe that will leave us in better shape to conquer the doubts.

We now have reasons to keep the rotten apples out of the basket: the three doubts.
We have criteria for putting good apples back into the basket: clear and distinct perception.
And we have a criterion for recognizing at least some bad apples: reliance on the Resemblance Hypothesis.

## XI. Ideas and Judgments

We are now going to return to the central narrative, in the middle of the Third Meditation, within the scope of the doubts of the First Meditation.
We have the cogito and whatever makes the cogito certain as our basic principles.
We have our ideas, as well, as long as we are careful not to judge errantly on their basis.

Strictly speaking, our ideas, including our images, can not, in themselves, be false.
Only judgments can be true or false.

> Now as far as ideas are concerned, if they are considered alone and in their own right, without being referred to something else, they cannot, properly speaking, be false. For whether it is a she-goat or a chimera that I am imagining, it is no less true that I imagine the one than the other. Moreover, we need not fear that there is falsity in the will itself or in the affects, for although I can choose evil things or even things that are utterly nonexistent, I cannot conclude from this that it is untrue that I do choose these things. Thus there remain only judgments in which I must take care not to be mistaken (AW 48b).

And again, the principle error we have discovered in the judgments depends on reliance on the resemblance hypothesis.
It is natural to take our ideas of objects, and the world in general, as resembling, as being like, the world as it is in itself.
But, the ideas which really tell us about the nature of the world are the ones which are not directly derived from sensory experience, as we saw in the case of the wax.

Descartes distinguishes three classes of ideas, depending on their origins (and independent of whether there are any ideas of each type.)
First, innate ideas are, roughly, *a priori*; they are not instinctive abilities, but pure intuitions are among the innate ideas.
Second, acquired ideas are *a posteriori*, or empirical; they are derived from sense experience.
Lastly, ideas that I create, like those of fantasy and imagination, are also empirical.
Note that only acquired and created ideas are subject to errors from the Resemblance Hypothesis.
The innate ideas, ones which do not rely on the senses, are clean of this infection.
We can see why the light of nature can yield these.
They can be clear and distinct because they are not affected by the Resemblance Hypothesis.

## XII. The Conundrum

Descartes is confused in the crucial fourth paragraph of the Third Meditation.
The doubts are very strong.
But the deceiver doubt is somehow unconvincing.
Descartes is torn.

> But what about when I considered something very simple and easy in the areas of arithmetic or geometry, for example that two plus three make five, and the like? Did I not intuit them at least clearly enough so as to affirm them as true? To be sure, I did decide later on that I must doubt these things, but that was only because it occurred to me that some God could perhaps have given me a nature such that I might be deceived even about matters that seemed most evident. But whenever this preconceived opinion about the supreme power of God occurs to me, I cannot help admitting that, were he to wish it, it would be easy for him to cause me to err even in those matters that I think I intuit as clearly as possible with the eyes of the mind. On the other hand, whenever I turn my attention to those very things that I think I perceive with such great clarity, I am so completely persuaded by them that I spontaneously blurt out these words: "let him who can deceive me; so long as I think that I am something, he will never bring it about that I am nothing. Nor will he one day make it true that I never existed, for it is true now that I do exist. Nor will he even bring it about that perhaps two plus three might equal more or less than five, or similar items in which I recognize an obvious contradiction." And certainly, because I have no reason for thinking that there is a God who is a deceiver (and of course I do not yet sufficiently know

> whether there even is a God), the basis for doubting, depending as it does merely on the above hypothesis, is very tenuous and, so to speak, metaphysical. But in order to remove even this basis for doubt, I should at the first opportunity inquire whether there is a God, and, if there is, whether or not he can be a deceiver. For if I am ignorant of this, it appears I am never capable of being completely certain about anything else (AW 47b-48a).

On the one hand, Descartes wants to move forward with the most obvious claims, on the basis of their similarity (in my surety about them) to the cogito.
On the other hand, the deceiver doubt then places the cogito under suspicion.
Descartes has arrived at a solipsistic barrier.
It seems that to move on, we will have to deal directly with the question of the existence of a deceiver.

The rest of the *Meditations* depends on the goodness of God to secure the rule of clear and distinct perception.
Descartes first argues for the existence of God, on the basis of our ideas, and then for God's goodness.