

Notes on Unit #1: Descartes

§I. Introduction to the Course

I.1. Modern Philosophy: Rationalism and Empiricism

The course on which we are embarking is called History of Modern Western Philosophy; I'll call it Modern. The modern era in western philosophy spans the sixteenth through the eighteenth centuries, starting (roughly) with Descartes, and ending (roughly) with Kant.

It starts a little earlier than what is ordinarily called the Enlightenment, and ends with it.

[Here's a timeline](#) I made.

Descartes is often credited with founding modern philosophy, though he had antecedents like Galileo and Montaigne.

Descartes's work is an influential and accessible introduction to the move away from medieval philosophy and science, which had been dominated by Aristotle's work.

Spurred mainly by advances in science, but also by criticisms of Church dogma, Descartes and the philosophers who followed him attempted to accommodate the discoveries of the scientific revolution with a broad view of human abilities, and to construct systematic understandings of the world.

This course surveys, mainly chronologically, the work of some philosophers of the modern era, in five units.

The first is on Descartes's work.

Unit 2 covers the monism of Hobbes and Spinoza.

In Unit 3, we will contrast Locke's materialist empiricism with Berkeley's idealist empiricism.

The fourth unit focuses on Hume's skepticism, but also Reid's work.

We'll have a guest, Prof. Becko Copenhaver of Lewis and Clark College, join us to talk about Reid, and give a public talk on philosophy and memory.

Lastly, in Unit 5, we will take on Kant's transcendental idealism.

According to a standard narrative of modern philosophy, there is a stark division among philosophers in the seventeenth and eighteenth centuries on whether we are born as blank slates.

The empiricists (Hobbes, Locke, Berkeley, and Hume) believe that all knowledge comes from experience.

The rationalists (Descartes, Spinoza, and Leibniz) believe that we are born with knowledge built into our minds.

The rationalists have a more robust account of our knowledge of the world around us, but they rely on contentious assumptions about what we know.

The empiricists have a more intuitive starting point, but are unable to develop a sufficient account of science.

One problem with this characterization of the division is that some of the empiricists don't quite believe in the blank slate theory of the mind.

The rationalists tend to believe that knowledge is based on sense experience.

Descartes thought of himself foremost as an empirical scientist.

Another account of the division between rationalists and empiricists invokes different uses of God in philosophy.

The rationalists find a central role for God in their work, while the empiricists do not.

But this account is also misleading.

While Descartes and Leibniz rely on the goodness of God to support their views, Spinoza's views on God are subtle; many people consider him to be an atheist.

On the other side, Locke's *Essay* contains long sections on scriptural interpretation.

While Hobbes and Hume were strict materialists, denying the existence of God, Locke and Berkeley were not.

Indeed, Berkeley was an Anglican bishop.

Whatever the source of the distinction between empiricism and rationalism, according to the standard narrative, Kant's work at the end of the eighteenth century is supposed to sort out the mess. Kant does attempt to synthesize the disparate views of the previous two centuries. His work marks the end of the modern era.

The nineteenth century in western philosophy is characterized mainly by attempts to interpret and extend Kant's work.

By the twentieth century, European philosophy had more or less fractured into two distinct disciplines. French and German philosophy following Hegel, Nietzsche, and Kierkegaard, went toward existentialism, deconstructionism, and literary theory.

So-called continental philosophers tend to focus on broad questions, often political in nature.

In contrast, Anglo-American philosophy followed Gottlob Frege and Bertrand Russell into philosophical and conceptual analysis.

Analytic philosophers in the twentieth century pursued a linguistic turn, focusing at first on the nature and structure of language.

Analytic philosophy has branched out, especially into questions of the nature of mind and science.

In contemporary philosophy, both continental and analytic philosophers study the history of philosophy, despite their different approaches.

We all study questions about value, though often in different ways.

The distinction between analytic and continental philosophy, while mainly accepted in practice, is at least as contentious as that between empiricists and rationalists.

Whatever views one has regarding contemporary philosophy, all philosophers now study the history of philosophy through Kant.

In combination with *Philosophy 201: History of Ancient Western Philosophy*, this course will provide you a broad background in the history of western philosophy through the eighteenth century.

It will prepare you to study some central themes in more depth, and to follow those themes into more contemporary work.

Among these themes are the nature of mind and its relation to the body, free will, and the distinction between appearance and reality.

I.2. Central Themes of the Course

One of the reasons for studying the history of philosophy is that, unlike contemporary philosophers, older thinkers wrote more broadly about a variety of themes and their connections.

Descartes was an important physicist and mathematician.

Leibniz developed the calculus.

Hobbes and Locke are important political theorists.

Hume wrote a comprehensive and influential history of England that was a standard source for centuries.

Berkeley wrote a treatise on the health benefits of drinking tar water.

Also, there were lots of other philosophers of the modern era.

We don't have time to study everything our select philosophers wrote, or to study all the significant figures of the time.

We will focus on metaphysics and epistemology.

Briefly, metaphysics is the study of what exists, and what those things are like.

Among the things that one might think exist are trees, tables, people, planets and stars, electrons, numbers, space-time points, and God.

Some of their properties include redness, squareness, velocity, and being located outside of space and time.

Metaphysics is also the study of topics including causation, necessity, the relationship between mind and body, and free will and determinism.

Epistemology is the theory of knowledge, of how we know what we know.
Some philosophers believe that all our knowledge originates in sense experience.
Some people believe that we are born with certain innate capacities to learn.
Still others believe that we are born with substantial knowledge already in our minds.

I.3. Why Study History?

There is a deep and difficult question about how the study of the history of philosophy prepares us for contemporary work.

In contemporary philosophy, we are engaged in a search for truth, for answers to specific questions, for solutions to particular problems.

In this way, we are like scientists.

But, scientists don't study the history of science in the way that philosophers study the history of philosophy.

When scientists read, say, Galileo's work, they do so as leisure, not as central to their own research.

The physicist's interest in Galileo is historical, rather than scientific.

The problem of why we study the history of philosophy only deepens if we believe that our intellectual lives are essentially constituted by our experiences, that the concerns of one generation are independent of those of earlier and subsequent generations.

That popular view, which one could call historicist, entails that our interests in the history of philosophy can only be historical, and not philosophical.

For the historicist, the philosopher's interest in the history of philosophy can only be like the physicist's interest in Galileo.

In studying the history of philosophy, though, philosophers appear to be more like those who work in the humanities, in which study of the history of a field is integral to the study of that field.

Musicians study the history of music, literature majors study the history of literature.

But, such disciplines don't centrally aim at the truth, in the way that science and philosophy do.

The goal of the study of art and literature is to understand a given work, to place it in its historical context, to grasp the culture out of which it is produced.

Philosophy seems to straddle the humanities and the sciences in a puzzling way.

It is not merely a cultural phenomenon like art or literature.

Instead, it aims at solving problems, like the sciences.

Yet, we study history like scholars in the humanities: Why?

David Rosenthal has written a [thoughtful piece](#) on just this question, which I have put on the [course website](#). Rosenthal argues, in this article and [elsewhere](#), that our interest in the history of philosophy can not be explained by:

1. Its being a source of ideas for contemporary work;
2. Its being a compendium of errors to avoid;
3. The perspective we gain by seeing a wider diversity of viewpoints than we would in contemporary work;
4. The comprehensive systematicity of some great philosophers;
5. Its use as a source of opponents against whom we can contrast our own positions.
6. The understanding of our own questions we gain by examining past questions.

To put the problem in perspective, this term we are going to examine Berkeley's claim that there is no material world, Leibniz's claim that this is the best of all possible worlds, and Hume's claim that we have no knowledge of scientific laws.

Such claims, and others, will seem to most of us to be obviously false.

Yet we are going to evaluate them not merely for their historical interest, but for their truth.

We are going to look at the arguments, and take them seriously.

At times, this approach may seem absurd.

The problem remains of why the study of largely unacceptable theories should be considered crucial to a field whose main aim is to arrive at the truth about certain issues... If...the analogy with mathematics and the sciences is apt...it is doubtful whether the history of philosophy could significantly further philosophical progress (Rosenthal, "[Philosophy and Its History](#)," 160–61).

Rosenthal presents three hints to how one might solve the problem; I will mostly leave them to you.

Briefly, he claims, first, that the broad systems developed by philosophers like the ones we are studying allow us to see connections among areas of interest that are, in contemporary scholarship, often seen only separately.

Academia has become increasingly fractured, but the great systems-builders wrote comprehensively about natural science, ethics, and metaphysics.

Second, Rosenthal claims that in order to understand historical work, we have to interpret it through our own beliefs about what is true.

Interpreting Berkeley and Leibniz and Hume requires honing our own views about the truth.

We read history because it forces us to be clear about our current beliefs.

Last, Rosenthal claims that reading the history of philosophy may provide new approaches to old problems.

One worry about studying the history of philosophy is that our contemporary questions may seem distant from the ones that interested philosophers hundreds of years ago.

I believe that this is not a real problem.

Our secondary source, Normal Melchert's book, is called *The Great Conversation* after a view about the nature of philosophy.

On this view, which I share, all philosophers are contemporaries.

Philosophers, as opposed to fiction writers or musicians or even historians, are not divided by culture or class or era.

We are engaged, together, in a singular pursuit of the truth.

I.4. The Syllabus

The Ariew and Watkins collection is required, as are many of the handouts available on the [course website](#).

The secondary source, Melchert's *The Great Conversation*, is optional.

If you have taken the Ancient course, you might have the first Melchert volume, which is really just the first half of a larger, comprehensive work.

We will only cover a few chapters of the second volume of Melchert in this course.

If you don't have it at all, I highly recommend it, independently of this course; the full work is both prettier and less expensive than the two half-volumes.

The most important philosophy source on the web, the [Stanford Encyclopedia of Philosophy](#), tends not to be accessible past the first few paragraphs of each article.

It is designed for professional researchers.

The [Internet Encyclopedia of Philosophy](#) is friendlier than the Stanford, but also more limited in its range.

§II. Introduction to Descartes's Work

II.1. Descartes's Goals and Motivation

Descartes begins the *Meditations* by motivating and describing his project and goals.

Several years have now passed since I first realized how numerous were the false opinions that in my youth I had taken to be true, and thus how doubtful were all those that I had subsequently built upon them. And thus I realized that once in my life I had to raze everything to the ground and begin again from the original foundations, if I wanted to establish anything firm and lasting in the sciences (Descartes, Meditation One, AW 40).

Descartes wants something “firm and lasting in the sciences.”

We can interpret ‘science’ broadly, as covering all knowledge.

In this case, we can see his work as consistent with the philosopher’s standard pursuit of truth.

We can also see some of his concerns about falsehoods learned in his youth as applying to a narrower, more sophisticated interpretation of ‘science’.

This requires some historical background.

II.2. The Scientific Revolution, the Protestant Reformation, and the Punk-Rock Descartes

Descartes is considered the founder of modern philosophy.

He was a mathematician, developing analytic geometry, and scientist, in addition to being a philosopher.

He is still a medieval, though, in many ways.

Descartes’s worries arise in large part from his medieval education, both in science and theology.

Consider five dogmas, or teachings, of the medieval world view:

D1. The heavens are constant.

D2. The Earth is at the center of the universe.

D3. Causes are (partially) explained teleologically, by purposes.

E.g. Objects tend to fall to the Earth because of their natural tendency toward the center.

D4. The heavens contain starry perfect spheres (stars and planets) which revolve in perfect circles around the Earth.

D5. There are two kinds of natural motion.

On earth motion is linear, in the heavens it is circular.

The first three of these dogmas come mainly from Aristotle (384–322 BC).

The fourth and fifth come from mainly Ptolemy (2nd century AD).

The Ptolemaic astronomer saw the sky as an object, rather than a void, like a roof on the Earth.

The new science of the sixteenth century had undermined all five of these dogmas.

In the late 15th century, a new star was discovered, which undermined D1.

Against D2, Copernicus (1473–1543) hypothesized that earth is not stable, and that it has retrograde motion.

Brahe (1536–1601) discovered that planets move in ellipses, against D2 and D4.

Kepler (1571–1630) urged heliocentrism, against D2.

Galileo (1564–1642) suffered under the Inquisition in 1633 for supporting Kepler’s heliocentrism.

His discovery of Jupiter’s moons meant that there is more than one center of motion, against D2.

His discovery of bumps on moon is evidence against D4.

Further, Galileo began to develop a theory of inertia on which rest is merely a limiting case of motion.

On the Aristotelian view, rest need not be explained, but motion does; rest is the consequence of an object’s

fulfilment of its telos, of its goal.

The inertial view of the new science was improved by Descartes and Newton, resulting in Newton's first law of motion: an object at rest will remain at rest, and an object in motion will remain in (linear) motion, unless acted upon by an unbalanced force.

According to the law of inertia, only acceleration needs an explanation.

So, there is one type of undisturbed motion, linear, for all bodies, against D5.

Two forces, gravitation and impetus, are unifying hypotheses which explain all deviations from ordinary linear motion, against D3.

More philosophically, Aristotle and the medievals believed that there were many different kinds of things.

At root, there are four basic elements: earth, air, fire, and water.

Additionally, all natural things have their own natures which make them distinct: flowers are different from trees, from frogs, from people.

Galileo, Boyle and Descartes built on an earlier atomism (of Democritus, say).

According to atomists, all matter is of the same kind.

All differences among objects can be explained by their differences in structure.

If you find it strange that in explaining these elements I do not use the qualities called 'heat', 'cold', 'moisture' and 'dryness'—as the philosophers do—I shall say to you that these qualities themselves seem to me to need explanation. Indeed, unless I am mistaken, not only these four qualities but all the others as well, including even the forms of inanimate bodies, can be explained without the need to suppose anything in their matter other than the motion, size, shape, and arrangement of its parts (Descartes, *The World* CSM I.89).

On the new science, the Earth and its inhabitants lose our privileged place in the center of the world.

Adding to Descartes's belief that he had many false opinions were direct attacks on religion, and its role in medieval thought.

There had been a general weakening of Church authority in the two centuries preceding Descartes.

The Papal Schism (1378–1417) undermined the Church's claim to infallibility.

Henry VIII severed England's ties with Rome in 1530.

Charges of corruption by Martin Luther (1483–1546) spurred the Protestant Reformation.

Calvin (1509–1564) and the Protestant work ethic opposed the hierarchical structure of the Catholic Church in favor of a more direct relationship between God and man.

Philosophical skepticism became popular in the sixteenth century, in large part as a reaction to the undermining of Church authority.

The scientific revolution and Protestant Reformation together supported the rise of the individual against central authority, in the guise of humanism, natural reason, and scientific method.

Descartes's work is rooted in the individualism of the era, as a reaction to the authority of the Church.

The 17th Century is not so different from our own.

There was an increasing skepticism about religion and its explanatory role.

There was a rise of relativism, both metaphysical (i.e. the claim that there is no absolute truth) and moral.

There was optimism about science and technology.

Anachronistically, we can see Descartes as working with a punk-rock, DIY ethos: the individual has a direct relation to the truth.

II.3. The Letter of Dedication

Descartes responds to a more specific skeptical worry in his letter of dedication: the problem of Scriptural circularity.

I have always thought that two issues—namely, God and the soul, are chief among those that ought to be demonstrated with the aid of philosophy rather than theology. For although it suffices for us believers to believe by faith that the human soul does not die with the body, and that God exists, certainly no unbelievers seem capable of being persuaded of any religion or even of almost any moral virtue, until these two are first proven to them by natural reason... Granted, it is altogether true that we must believe in God's existence because it is taught in the Holy Scriptures, and, conversely, that we must believe the Holy Scriptures because they have come from God. This is because, of course, since faith is a gift from God, the very same one who gives the grace that is necessary for believing the rest can also give the grace to believe that he exists. Nonetheless, this reasoning cannot be proposed to unbelievers because they would judge it to be circular (AW 35).

The letter of dedication to the *Meditations* is a difficult piece to interpret. Descartes defends what seems clearly to be fallacious, circular reasoning. Why would he do that?

Descartes had cancelled publication of his broad treatise on the new science, *Le Monde*, in response to Galileo's condemnation by the Inquisition.

The letter of dedication is clearly an attempt to appease the Church.

Some take Descartes's claims of faith in the letter, like his claim that circularity is not a problem for believers, to be insincere.

Indeed, there are interpretations of Descartes's *Meditations* which impute insincerity to much of its content. I will not pursue such interpretations, evaluating the arguments as they are written.

I plan to take Descartes at his word, rather than interpret him as being insincere.

As we will see next week, Descartes's reasoning in the *Meditations* is often criticized for being circular.

I believe that the Letter of Dedication indicates that Descartes thinks that circular reasoning may not be as fallacious as it seems to us.

In contemporary philosophy, people sometimes distinguish between vicious and virtuous circles.

For example, we accept certain mathematical statements as axioms because they yield the theorems that we want.

But, we accept the theorems because they follow from the axioms.

The axioms and the theorems have to be accepted together, despite the circularity of deriving our beliefs in one from beliefs in the other.

I believe that Descartes understood that circular reasoning is not necessarily fallacious, and that the Letter of Dedication is a hint at his radical, new position.

I have a draft of a paper arguing for this conclusion, which I can send you if you are interested.

II.4. Knowledge and Descartes's Method

In the first paragraph of the *Meditations*, having alluded to the problem of accepting falsehoods, Descartes introduces us to his general method: to raze everything to the ground and begin again from the original foundation.

In the second paragraph, Descartes elaborates on that method, using principles for doubting to call swaths of beliefs into question.

The general method in the *Meditations*, then, is to use doubt in order to achieve knowledge.

More details of Descartes's method are presented in the *Discourse on Method*.

The *Discourse* was the introductory essay for the grand work, *Le Monde*, which Descartes suppressed after Galileo's 1633 trial for heresy by the Inquisition.

Descartes published the *Discourse* in 1637 as part of a smaller, less controversial collection of essays.

It was written in French, and intended for popular audiences, in contrast to the *Meditations* (1641), which were written in Latin and intended for the most scholarly readers.

In the *Discourse*, Descartes presents a casual discussion, including four methodological rules:

- R1. Never to accept anything as true that I did not plainly know to be such;
- R2. Divide each difficulty into as many parts as possible;
- R3. Conduct my thoughts in an orderly fashion, commencing with the simplest and ascending to the most composite; and
- R4. Everywhere to make complete enumerations (AW 31).

We will focus here on R1, the use of which depends on having a good characterization of knowledge.

As a first step to characterizing knowledge, let's note that there are several different kinds of phenomena that we call knowledge.

We say that we know, say, Joan Stewart or our best friends.

We also say that we know facts, like the Pythagorean theorem.

The latter kind of knowledge is, in some languages, distinguished from the former by the use of a different word.

In Spanish, we use 'conocer' for the former but 'saber' for the latter.

Our interest is mainly in the latter kind of knowledge.

Even among the latter sort of knowledge, we can distinguish between knowledge-how and knowledge-that.

Knowledge-how is epitomized by riding a bicycle or cooking an omelet.

Knowledge-that is exemplified by propositional knowledge, knowledge of facts: that $2 + 2 = 4$, that Barack Obama is the president of the United States, that it is generally cold in Clinton in January.

[Some philosophers](#) argue that all knowledge how is really knowledge that.

We will not decide that question here.

Our focus will be, with Descartes, on knowledge-that, which is often called propositional knowledge.

Propositional knowledge seems to be, in some sense, primary.

Knowledge is a lot like belief.

Both knowledge and belief appear to be relations between persons and propositions, or statements.

I believe that snow is white; I know that snow is white.

Both claims are relations between me and the claim that snow is white.

But, knowledge and belief are also importantly different.

Consider two people in the Middle Ages.

Person A says, "I know that the sun revolves around the earth."

Person B says, "I believe that the sun revolves around the earth."

Imagine that we visit these people in a time machine, and teach them about heliocentrism.

After they learn that the earth revolves around the sun, A and B deny that the sun revolves around the earth.

But they have strikingly different attitudes toward their original claims.

Person A recants her original claim.

She never knew it, but only thought that she did.

Person B maintains her original claim.

She believed that the sun revolves around the earth, even though that belief was false.

We can summarize the difference between knowledge and belief by saying that knowledge is a success term. If we know something, it must be true. We can have false beliefs, but not false knowledge.

Knowledge is more than mere true belief, though. Consider the belief that there are exactly 6,592,749,256,111 grains of sand on the beaches of the Earth. Let's imagine that there are, in fact, exactly 6,592,749,256,111 grains of sand on the beaches of the Earth. Still, no one could be truly said to know this fact. We need some account, some justification of how we know. Following Plato's work in *Theaetetus*, philosophers have taken knowledge to be justified true belief (JTB). There are interesting [difficulties with this characterization](#). There are some [rare cases of justified true beliefs that are not knowledge](#). We will not consider these odd counterexamples here.

II.5. Knowledge and the KK Thesis

A further, and stronger, characterization of knowledge, one which is clearly present in Descartes's R1 and which is more controversial, involves the inability to doubt.

The first [rule] was never to accept anything as true that I did not plainly know to be such; that is to say carefully avoid hasty judgment and prejudice; and to include nothing more in my judgments than what presented itself to my mind so clearly and so distinctly that I had no occasion to call it in doubt (AW31).

Descartes is claiming that if I know p, I can not doubt it. This claim is essentially what is known as the KK thesis.

KK. In order to know p, you must know that you know p.

There are good reasons to question the KK thesis. Consider being asked what the capital of Illinois is. Imagine that you think that the answer is Springfield. You believe that you remember learning it in school. You had a puzzle which showed all the state capitals. But you are not sure that you remember correctly. You believe that Springfield is the capital of Illinois, but you are willing to doubt it.

In fact, Springfield is the capital of Illinois. Additionally, the reasons you thought so were good ones. This seems to be a case in which you know that p, but you do not know that you know that p. For now, though, I will put aside worries about the KK thesis. This characterization, including the KK thesis, helps us to see Descartes's goal. Descartes is seeking firm and lasting knowledge in the sciences by way of doubt. He will doubt everything, and then only affirm those beliefs of which he is sure.

III. Meditation I

III.1. The Method of Doubt

The *Meditations* was published along with six (and later seven) sets of objections from various philosophers and theologians, and Descartes's replies.

In the Seventh Replies, Descartes uses an analogy for his method.

Consider a basket of apples, some of which are rotten.

We can dump out the whole basket and put back only the good ones.

So, let's turn to the method of doubt, being careful to distinguish doubt from denial.

Doubt is a withholding of opinion.

Denial is an assertion.

'I doubt that p' means that I do not know whether p is true or false.

'I deny that p' claims that p is false.

Descartes, in the First Meditation, doubts his beliefs.

At the end of the First Meditation, and the beginning of the Second Meditation, Descartes does assert that he will deny all of the claims he formerly believed.

The point of denial here is just as support for the doubt, for truly doubting the claims which are most obviously true so that he does not accidentally fall into old habits.

Descartes provides three arguments for doubt.

If they are successful, they will make us doubt, but not deny, everything on the list.

III.2. Illusion

Among the most difficult beliefs to abandon are those which we grasp with our senses.

What we see, and even more so what we touch, we take as most real.

In the third paragraph of Meditation One, Descartes says that everything he has taken as most true has come either from the senses or through the senses.

Descartes, who crafted the *Meditations* most carefully, seems to be making a distinction between knowledge which comes directly from experience, like knowing that it is hot outside, and knowledge which requires reasoning in addition to sense experience.

Our knowledge of mathematics, for example, may need more than mere sense experience for its justification.

We never sense mathematical objects like circles or numbers.

Also, some sentences, like 'Bachelors are unmarried', do not seem to depend on sense experience.

We need only to know the meanings of the words to know that it is true; we need not see any bachelors.

Some philosophers, like Descartes, believe that some knowledge comes from our ability to reason, independently of the senses.

Knowledge based on reason is sometimes called *a priori* knowledge.

Logical and mathematical beliefs are often taken to be acquired *a priori*.

So are our beliefs about sentences like the one about the bachelors.

One question which has divided philosophers is whether all knowledge comes from experience.

In the third paragraph, Descartes provides an argument for doubt which immediately calls the view that knowledge depends exclusively on sense experience into question.

Consider optical, or other [sensory](#), [illusions](#), or hallucinations. There are further [illusions here](#).

Such experiences undermine our sensory beliefs.

They are particularly effective in impugning beliefs about distant or ill-perceived objects, and perhaps very small ones.

The square building may look round from afar.

But our knowledge of close objects, like our own bodies, resists doubts about illusions.

Our senses sometimes deceive us.

But we have other sensory ways of discovering the truth.

For example, while we might see a mirage, we can also approach it, and discover that it is not real.

Illusion may allow us to doubt some specific properties of physical objects, but that's about all.

If we are to dump all the apples from the cart, we must have stronger doubts.

III.3. Dreams

In the fourth and fifth paragraphs of the first Meditation, Descartes develops a stronger argument against the veracity of the senses.

If we are dreaming, all of our beliefs which rely on our senses are called into doubt.

We can dream of things that do not exist, or that things which do exist have different properties than they actually do.

Science fiction books and movies often depend on such premises.

Movies like *Inception* and *The Matrix* rely on similar worries about the reality of experience.

The dream argument elicits three distinct questions.

A. Is there any way of distinguishing waking from dreaming experience?

B. What beliefs does the possibility of our dreaming eliminate?

C. Is there anything of which we can be sure, even if we are dreaming?

Regarding A, there is no obvious mark to distinguish waking from dreaming.

Anything we can do when we are awake, we can dream we are doing.

So, the answer to B will be long and detailed.

We can fantasize entirely novel objects, so we can not be sure that the objects in our dreams exist.

There need not even be any Earth, or any people.

We could be sentient machines, dreaming about people, in the way that we, supposing our ordinary views of the world, can dream of sentient machines.

Machines need designers and constructors, of course, but these need not be people.

We can even doubt that any objects exist, since we could be just disembodied minds.

We might be able to know that some state was a dream.

But we can not be sure that our current state, if it has no obvious dream-like qualities, is a waking state.

If we can not be sure that we are not dreaming, then we can not be sure of anything our senses tell us.

The answer to B leads to a way to approach C.

If we can not be sure that our sense experience is veridical, perhaps there is non-sensory knowledge that resists the dream doubt.

Even if we are dreaming, our beliefs in mathematical claims, like '2+2=4' or 'the tangent to a circle intersects the radius of that circle at right angles' may survive.

Descartes also claims that the universals from which objects are constructed, the properties of objects, remain, as well.

Properties are what he calls simple and universal.

For example, consider color, shape, quantity, place, time.

Even if no object has these properties, the properties remain, insofar as they are in our minds.

Descartes calls these the 'building blocks' of the empirical world.

It is from these components, as if from true colors, that all those images of things that are in our thought are fashioned, be they true or false (AW 42).

The idea is not that the objects are made of their properties, in the way that water is made of hydrogen and oxygen.

Rather, many of our ideas are made of particular instances of general images, and those general images can remain impervious to doubt even when we are doubting that they are properties of objects outside of us.

III.4. The Deceiver

The dream doubt did not eliminate the basic building blocks of our ideas like color, shape, and extension, or mathematics and logic, which deal with our ideas most generally.

Even if I am dreaming, colors exist, bachelors are unmarried, and $2+2=4$.

So, we needed a stronger doubt to finish the job of providing reasons to doubt all of our beliefs.

For the third doubt, Descartes wonders about the status of his beliefs if there is a powerful deceiver who can place thoughts directly into our minds.

We need not worry about whether this deceiver is God, or a demigod, or a demon.

Neither need we assert the existence of a deceiver or a God.

All we need is to imagine the possibility of a deceiver, which is easy enough to do.

Compare the deceiver hypothesis to the *Matrix* or to an equivalent brain-in-a-vat hypothesis.

The latter hypothesis is to imagine that we have been kidnaped, our brain removed from our body.

Our bodies discarded, our brains have been hooked to computers which simulate the continuation of our lives.

According to the thought experiment, we don't notice the difference.

According to such examples, our thoughts really happen in brains.

But the brains are being fed misleading information.

There is a physical reality, but it is unlike the one we perceive.

In contrast, the deceiver hypothesis is consistent with the non-existence of the physical world.

We could be disembodied minds, whose thoughts are directly controlled by an independent source.

The certainty which convinces us not to doubt those claims that remain under the dream doubt could itself be implanted by a demon deceiver.

When we apply the deceiver hypothesis to our beliefs, we notice that just about all of them can be called into question.

Nothing, it seems, is certain.

In terms of the metaphor of the house of knowledge, Descartes has razed the house, and now needs to rebuild from new foundations.

§IV. First Steps to Reclaiming the World: Meditations Two and Three

IV.1. 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 numbers, and geometrical entities.

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).

From this starting point, he will proceed to reclaim his beliefs, roughly in the reverse order.

Of course, he won't be reclaiming all of his beliefs, since many of them were false!

IV.2. 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).

IV.3. 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 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.4. 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 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 (AW 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.

IV.5. 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.

Descartes's 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.

IV.6. 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: knowledge 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 innumerable many different forms.

This is not a sensory belief.

It is knowledge.

IV.7. 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 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, 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).

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.

IV.8. 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. 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.

IV.9. Some Notes on Descartes's Method, Including an Extended Discussion of Euclid's *Elements*

Note: this section of the notes concerns Descartes's use of the cogito within his larger philosophical system. It contains discussion that both is ancillary to our central concerns and presupposes more of the Meditations than we have discussed. It will be useful in our discussions of both Descartes and Spinoza.

We can compare Descartes's methodology with that of axiomatic sciences, like geometry.

In geometry and other foundational or axiomatic systems, we generally start with two elements:

F1. Basic axioms, or assumed or indisputable truths; and

F2. Rules of inference which allow us to generate further claims from established ones.

In addition to F1, one might introduce some definitions.

One might also 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 an explicitly foundational presentation of the content of the *Meditations*, which he calls a synthetic presentation, in the Second Replies, at AW 72–75.

The synthetic presentation follows the structure of Euclid's *Elements* precisely.

Spinoza's *Ethics* also uses a synthetic, or formal, method.

To better understand the structure of such systems, it might be useful to look at Euclid's *Elements*.

There is an excellent, perspicuous version [on line](#).

The Elements starts with the following claims:

E1. Definitions

E2. Five geometric postulates

E3. Five general logical axioms, or common notions

From these starting points, the remaining propositions are derived.

Two observations on Euclid's system are worth noting here.

First, 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.

Second, 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.

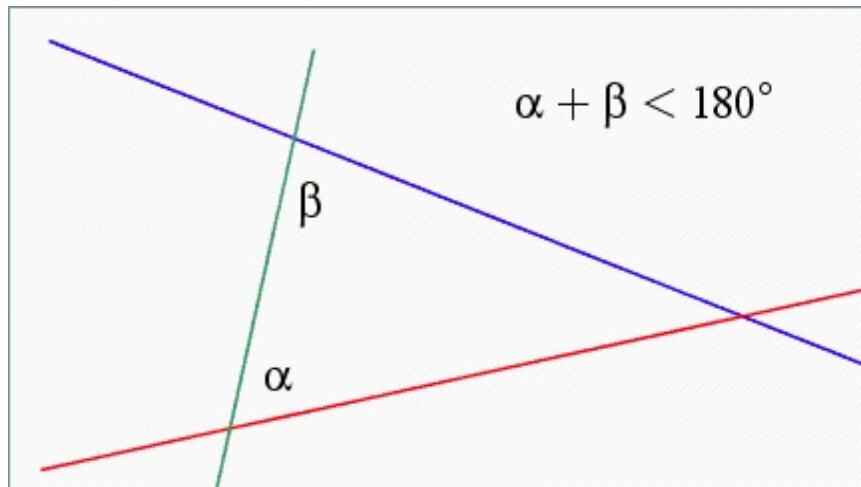
But, since the logical axioms apply so broadly, any questions about them would not be worries about the geometry of the Euclidean project, but about our beliefs more generally.

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.

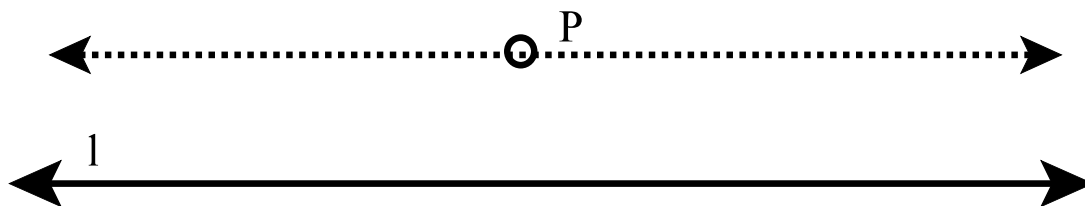
In particular, the fifth postulate, the parallel postulate, turned out to be not quite as secure as the others.

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 (π , in radian measure).

Consider an interstellar triangle, formed by light rays of three stars whose vertices are the centers of the stars. The sum of the angles of our interstellar triangle will be less than π , 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, in contrast, 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.

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. The so-called ontological argument for God’s existence
- 2–3. Causal arguments for God’s existence
4. The distinction between mind and body

Notice that the foundation in the Second Replies is quite different from that in the *Meditations*.

The cogito, which is the first secure belief in the *Meditations*, is almost completely absent from the synthetic presentation in the Second Replies.

If we were to sketch the structure of knowledge 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.

IV.10. 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*.

Toward the end of the Meditation Two, Descartes spends some time considering an exemplar of a sensible object: a ball of wax.

He concludes that 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 claim underlying belief 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, Galilean physics takes all causes as 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.
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.

IV.11. Ideas and Judgments

We are now going to return to the central narrative, in 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).

The principle error we have discovered depends on reliance on the resemblance hypothesis.
It is natural to take our ideas of objects as resembling, 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.

IV.12. The Axis Paragraph

Descartes is confused in the crucial fourth paragraph of the Third Meditation.

The First Meditation's doubts are very strong.

But the deceiver doubt is somehow not fully convincing.
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.

§V. Descartes's Causal Argument for the Existence of God: Meditation Three

V.1. The Causal Argument

The argument in Meditation Three for the existence of God is, in short, that we have an idea, the idea of God, which has properties which make it such that it can not be created by ourselves alone.

Since I have doubt, I can not be perfect.

I have the idea of perfection.

But, the idea of perfection can not have come from an imperfect source.

That would violate a general principle which prohibits something coming from nothing.

So, the idea of God must come from God.

To look more carefully at the argument, it will help to familiarize yourself with some terms Descartes uses. The synthetic presentation of the content of the *Meditations* in the Second Replies can be helpful since it contains some explicit definitions.

The objective reality of an idea is a quality that an idea has in regards to that which it represents.

The idea of God has more objective reality than the idea of a person, which has more objective reality than

the idea of a mode (or property) of a person.

There are three kinds of objective reality: of modes, of finite substances, and of infinite substances.

In contrast, formal reality is what we ordinarily think of as existence.

The idea of Easter Bunny has the same kind of objective reality as the idea of myself.

Both ideas are of finite substances.

But, I have formal reality, whereas the Easter Bunny does not.

To prove the existence of God, Descartes relies on a general principle which I'll call R.

R There is more reality in the cause of something than in the effect.

From R, we can derive that something can not come from nothing.

R holds for ideas as well as for other objects, like physical ones.

Indeed, at this point in the presentation, R can only hold of ideas since we do not know that there are any other things.

From R, Descartes concludes that there is more reality in the idea of God than in the idea of a person.

There is so much reality in the idea of God that we can not have constructed it ourselves.

The idea of God contains the ideas of all perfections.

But, I am imperfect, and could not have devised the notion of such perfections purely from my ideas.

Although the idea of substance is in me by virtue of the fact that I am a substance, that fact is not sufficient to explain my having the idea of an infinite substance, since I am finite, unless this idea proceeded from some substance which really was infinite... I clearly understand that there is more reality in an infinite substance than there is in a finite one. Thus the perception of the infinite is somehow prior in me to the perception of the finite... How would I understand that I doubt and that I desire, that is, that I lack something and that I am not wholly perfect, unless there were some idea in me of a more perfect being, by comparison with which I might recognize my defects? (AW 51b)

Here is a regimented version of the causal argument derived from work by Jeffery Tlumak.¹

- T1. Ideas are like images in that they represent things as having certain characteristics.
- T2. Some of the objects of my ideas are represented as having more formal reality than others (i.e. some ideas have more objective reality than others).
- T3. Whatever exists must have a cause with at least as much formal reality as it has.
- T4. Every idea must have a cause with at least as much formal reality as the idea represents its object as having.
- T5. I have an idea of God as an actually infinite, eternal, immutable, independent, all-knowing all-powerful substance by whom I (and anything else which may exist) have been created.
- T6. I do not have all the perfections which my idea of God represents God as having.
- T7. I am not the cause of my idea of God. (From 4, 5, and 6)
- T8. The cause of my idea of God is some being other than myself who possesses at least as much formal reality as my idea of God represents. (From 4, 5, and 8)
- TC. So, God exists.

¹ In his original presentation, Tlumak, following Descartes, distinguishes between efficient, total, first, and principle causes. Those distinctions are more work than necessary, for our purposes. I eliminated the different kinds of causes.

V.2: Reflections on the Causal Argument

Tlumak says that the general principle T3 is an instantiation of the claim that something can not come from nothing.

It might instead be a more general principle from which the claim that something can not come from nothing follows.

I'm not sure which is more fundamental.

Tlumak questions the central claim, at T4, that ideas must have causes that are at least as real as the object of that idea.

The claim is that if I have an idea of a rock, there must be a cause of that idea with at least as much reality (i.e. the ability to create) that rock.

The cause of my idea of the rock need not be the immediate source of my idea; I can just look at the rock.

But, it must be the first cause of my idea of the rock.

I'm not sure that I agree that T4, as Descartes uses it, is wrong.

But in order for the causal argument to succeed, as Descartes wants it to succeed, the principles on which it is founded need not only be true.

They have to be clear and distinct perceptions, like the cogito.

It does not seem to me that either R or T3 is clearly and distinctly true.

Moreover, Descartes seems to be using logical principles to infer from R.

But those principles are brought into question by the deceiver hypothesis.

The inferences would have to be self-justifying to be legitimate.

Still, I believe that there is something salvageable here.

The argument for the existence of God may not be salvageable.

But the structure of the argument is importantly precedential.

It is what we now call a poverty of the evidence argument.

Descartes starts by observing that we I have some ideas.

We don't know how to account for their origins on the basis of our experiences.

So, we have to posit a non-experiential source of some ideas.

This kind of poverty of the evidence argument has been influential in philosophies of linguistics and mathematics.

We have no sense experiences of mathematical objects, and yet we have knowledge of them.

So, we seem to have some kind of non-sensory cognitive capacities.

Descartes uses this kind of poverty of the evidence argument for mathematics in Meditation Five.

Similarly, according to Chomsky and other linguists, our knowledge of language seems to be inexplicable on the basis of behavioral conditioning.

Such linguists thus posit native brain structures to account for language.

Chomsky says that language is not so much learned as grown in the brain, as a limb is grown on the body.

Let's put aside our reflections on the causal argument and its influence, and return to the *Meditations*.

V.3. The Innateness of the Idea of God

Descartes's causal argument for the existence of God is related to other causal arguments for the existence of God.

Other causal arguments often proceed from the premise of the existence of the world, backwards, toward a first cause.

For example, Aquinas argues toward a first cause as the second of his [five ways](#).

Such arguments start with an observation, asking about the origins of the Earth, for example, or the galaxy. Such premises are empirical, from observation, and they are of course off limits to Descartes in the Third Meditation.

The doubts of the First Meditation persist.

Instead, Descartes is arguing backwards from just his ideas, from the mere presence of the thoughts which he establishes with the cogito.

At the end of the Third Meditation, Descartes emphasizes a consequence of his non-standard approach to the causal argument.

His belief about the existence of God can not, on pain of the doubts, have been acquired from observation. It must arise in another way.

All that remains for me is to ask how I received this idea of God. For I did not draw it from the senses; it never came upon me unexpectedly, as is usually the case with the ideas of sensible things when these things present themselves (or seem to present themselves) to the external sense organs. Nor was it made by me, for I plainly can neither subtract anything from it nor add anything to it. Thus the only option remaining is that this idea is innate in me, just as the idea of myself is innate in me. To be sure, it is not astonishing that in creating me, God should have endowed me with this idea, so that it would be like the mark of the craftsman impressed upon his work... (AW 53b)

Again, notice the a poverty of evidence form of the argument.

All of my ideas must be innate, acquired, or created by me.

We have freedom to create ideas any way we wish.

But, the idea of God is not variable; it is the idea of infinite perfection.

We have and can acquire no sensory experience of God.

So, the idea of God must be innate.

V.4. Problems for 'God'

The argument for the existence of God raises some obvious conceptual difficulties.

God is supposed, in this argument and in the one Descartes presents in Meditation Five, to be infinitely perfect.

But the existence of an infinitely perfect being seems inconsistent in at least three ways.

- G1 There seems to be **evil** in the world, and that seems to conflict with God's infinite benevolence
- G2 We make **errors**, which seem to conflict with God's omnipotence.
- G3 We seem to have **free will**, which may be taken to conflict with God's omniscience.

The problems of evil and error are sometimes run together on the assumption that evil is moral error.

Another problem with infinite or perfect benevolence, [which we see explicitly in Leibniz's work](#), is that it seems to entail that this is the best of all possible worlds.

Such problems, though, are problems with Descartes's conclusion, not with his argument.
We will return to these problems through the course.
For now, let's continue to pursue Descartes's narrative.

§VI. Freedom and Error: Meditation Four

VI.1. Descartes's Problem of Error

Let's review our progress through Descartes's *Meditations*.

We have finished our discussion of the Third Meditation, and are beginning the Fourth.

We have reasons to suspend judgment concerning our beliefs: the three doubts.

We have a criterion for restoring some of our beliefs: clear and distinct perception.

We have a criterion for continuing to doubt others: reliance on the Resemblance Hypothesis.

To proceed, we need to know that the criterion will not lead us astray.

At the beginning of Meditation Four, Descartes argues that the goodness of God secures the criterion.

A perfect God is all good, but the deceiver is not.

The goodness of a perfect God overwhelms any worries about a deceiver.

- GG GG1. Deception is a defect.
- GG2. God has no defects.
- GG3. So God is no deceiver.
- GG4. God created and preserves me.
- GGC. So, I am not deceived by God. (AW54b)

Unfortunately, as Descartes notes, this argument appears to be too strong.

If my creator and preserver can not, by her goodness, deceive me, it is a puzzle how I can ever err.

This puzzle is sometimes known as Descartes's problem of error.

- PE PE1. God exists and is perfectly good.
- PE2. God creates and preserves me.
- PE3. My faculty of judgment therefore comes from God.
- PEC. So, my judgments never err.

Since I do err, there must be a problem with PE.

Perhaps God is really the deceiver after all!

VI.2. Descartes's Resolution of the Problem of Error: The Two-Faculty Theory of Mind

Descartes's argument appear to be fallaciously strong.

The conclusion to which they seem to lead, PEC, is false.

Either one of the premises of PE is false or the conclusion does not follow from the premises.

Whatever solution Descartes presents must not contradict the prior claims in GG.

Thus, Descartes is committed to all three premises PE1–PE3.

His solution is to deny that PE is valid.

While all of the premises of PE are true, PEC, he claims, does not follow from the premises of PE.

To explain how we can err, Descartes presents what is know as a two-faculty theory of the mind, AW55b–58a

Our minds have faculties both of will and of understanding.
Our power of willing is infinite.
Descartes's account of will is called libertarian; we are perfectly free to choose.
In contrast, our power of understanding is finite.
We only understand a limited range of truths.

We err when we apply our will (and judge) beyond what we understand.
If we affirm a belief about which we lack clear and distinct understanding, we will make a mistake.
If, for example, I assert that lemons are yellow, I will err.
Consequently, we can avoid error by not judging in the absence of clear and distinct understanding.

Descartes account of error presumes that if I clearly and distinctly understand that P then I know that P.
Remember, clarity and distinctness, as a criterion, is ensured by the presence of God.
The goodness of God ensures that there is no deceiver, no systematic deception.
It ensures that there will be a way to discover any mistakes I make.
There would be no way to discover that there is a demon deceiver making me believe most strongly, say, the theorems of mathematics when they are in fact false.
So there can't be a demon deceiver.
But there are ways to recognize small errors of which I am the source, through misuse of my will.
If I am careful not to judge hastily, I can be sure to never judge falsely.

Descartes's account of error thus allows small mistakes, but prevents systematic misunderstanding.
I can err about minor particular claims, but not about profound ones, like the existence of a physical world.
Now, we shall begin to reclaim that world.

§VII. Mathematics and Other Innate Ideas: Meditation Five

VII.1. Applying the Criterion

Let's look back at the three-tiered classification of beliefs I derived from the First Meditation.

- 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

The possibility of a deceiver eliminated our Class III beliefs.
Having eliminated the deceiver, we can reclaim them, or at least the ones we perceive most clearly and distinctly.

VII.2. Mathematics

Descartes reclaims mathematical truths in Meditation Five, AW 58b–59a.
He makes two metaphysical claims and one epistemological claim.
Descartes's first metaphysical claim is that mathematical objects have a determinate, objective nature,

independent of us.

His second claim is that mathematical truths are necessary.

His argument for the first metaphysical claim, DM1, depends on our inability to affect mathematical truth.

- DM1
1. A thing's nature depends on me if I can make it any way I like.
 2. A thing's nature is objective if I can not make it any way I like.
 3. I can not make mathematical objects any way I would like.
- So, mathematical objects are objective.

When Descartes claims that mathematical truths are necessary truths, he intends mainly to characterize them as innate, built into our cognitive faculty, and eternal.

Still, his commitment to the omnipotence of God debars him from asserting that their necessity transcends or constrains God.

Descartes does not think that any truths are necessary in the sense that they are independent of God's will. But even for Descartes, mathematical truths are necessary as far as we humans can understand necessity.

Descartes's central epistemological claim is that our knowledge of the truths of mathematics can not come from the senses; it must be innate.

His argument for the epistemological claim is explicit in the Third Meditation, in the causal argument for God's existence.

- DE
1. All ideas are invented, acquired, or innate.
 2. Mathematical truths can not be invented.
 3. Mathematical truths can not be acquired.
- So, they are innate.

Descartes's support for premise 2 comes directly from the first metaphysical claim, DM1.

Descartes defends premise 3 with an example of a one-thousand-sided figure, called a chiliagon.

We can not imagine such a figure, picture it to ourselves, certainly not distinctly enough to derive certain truths about it.

But we can think about it without constructing a definite mental image and derive, using pure thought, a variety of theorems which apply to the chiliagon.

For example, the sum of the angles of any n -sided polygon is $(n-2)180$.

So the sum of the angles of the chiliagon is 998×180 or $179,640$, precisely.

That figure is impossible to determine using sensation and measurement.

Since the conclusion is both exactly right and not the result of sense experience or imagination, Descartes concludes, our mathematical knowledge is innate.

Remember, sensory information is still in doubt.

The dream argument lingers even with the defeat of the deceiver.

The problems of the resemblance hypothesis have not been resolved.

But mathematical knowledge is not impugned even in dreams.

Consequently, Descartes reclaims the mathematical properties of objects (e.g. length, shape, and anything describable using mathematics).

This reclamation leads to Descartes' second argument for the existence of God, AW 59b.

This argument, which becomes known later as the ontological argument, derives from a similar argument made by Anselm in the eleventh century CE.

VII.3. Anselm's Ontological Argument

Descartes's ontological argument is quick.

It might be useful to look at an earlier version of the argument in the work of Anselm.

There are various consistent characterizations of 'God'.

Descartes alludes to many of them.

Whatever necessarily exists

All perfections, including omniscience, omnipotence, and omnibenevolence

Creator and preserver

Anselm uses a different characterization: 'something greater than which can not be thought'.

These are definitions of a term, or a word, but not an object.

There is no presupposition in this characterization that such a thing exists.

Or, so it seems.

Anselm's ontological argument for God's existence (see [selections](#)):

AO AO1. I can think of 'God'

AO2. If 'God' were just an idea, or term, then I could conceive of something greater than 'God' (i.e. an existing God).

AO3. But 'God' is that than which nothing greater can be conceived

AO4. So 'God' can not be just an idea

AOC. So, God exists.

Anselm further argues that one can not even conceive of God not to exist.

This latter argument is not present in the *Meditations*, and need not concern us.

VII.4. Descartes's Ontological Argument

Descartes's version of the ontological argument is simpler than Anselm's.

Anselm argues that the object which corresponds to the concept 'something greater than which can not be thought' must exist.

For, if we thought that the object which corresponded to that concept did not exist, then it would not be the object which corresponded to that concept.

There would be something greater, i.e. the object which does exist.

So, we give the name 'God' to that best possible object.

Descartes's version of the ontological argument does not depend on our ability to conceive.

He merely notes that existence is part of the essence of the concept of 'God'.

This conceptual containment is similar to the way that having angles whose measures add up to 180 degrees is part of the essence of the concept of a triangle.

Or, as Descartes notes, like the concept of a mountain necessarily entails a valley.

The essence of an object is all the properties that necessarily belong to that object.

They are the necessary and sufficient conditions for being that object, or one of that type.

Something that has all these properties is one.

Something that lacks any of these properties is not one.

A chair is essentially (if arguably) an item of furniture for sitting, with a back, made of durable material.

The essence of being a bachelor is being an unmarried man.
A human person is essentially a body and a mind.
The essence of God is the three omnis, and existence.

Descartes's ontological argument starts by noting that the concept 'God' is that of a being with all perfections. Since it is more perfect to exist than not to exist, the concept must include existence. And if the concept includes existence, the object to which it corresponds must exist. You can have the concept of a non-existing object just like God, but which does not exist. But this would not be the concept 'God', by definition.

VII.5. Objections to the Ontological Argument

Caterus, a Dutch philosopher, noted in correspondence with Descartes that the concept of a necessarily existing lion has existence as part of its essence, but it entails no actual lions. You can find Caterus's objection and Descartes's reply in the collection of Objections and Replies I have prepared on the website; Caterus was the first objector. Some of us will look more closely at this objection next Thursday, in Class #6. Caterus is saying that we must distinguish more carefully between concepts and objects. Even if the concept contains existence, it is still just a concept.

Similarly, Gaunilo, responding to Anselm, wrote that my idea of the most perfect island does not entail that it exists.

In fact, it may entail that it does not exist, since a non-existing island would be free of imperfections. Still, the airfare would be pretty steep.

Gassendi, in the Fifth Objections, argues that existence is not a perfection. Existence can not be part of an essence, since it is not a property at all. If existence is not a property, then the ontological argument is unsound. You might look at Gassendi's objection for your first paper. Kant, later, pursues Gassendi's suggestion. We will examine Kant's response at the end of the term.

VII.6. Beyond the Self

In the Fourth Meditation, Descartes applies his rule to reclaim knowledge of the self, and in particular knowledge of our (libertarian) freedom.

In the Fifth Meditation, Descartes reclaims his Class III beliefs, in particular mathematical beliefs. What remains is our knowledge of the external world, knowledge which seems to depend, in some way, on our senses.

§VIII. The External World and the Mind/Body Distinction: Meditation Six and *Discourse*, Part Five

VIII.1. Dualism and Monism

By the end of Meditation Five, Descartes believes that he has secured what I called the Class III beliefs (and what Descartes sometimes calls the eternal truths) as clearly and distinctly perceived.

Class I beliefs, specific sense properties of physical objects, are not the sort that can be called knowledge, given the problems of the resemblance hypothesis.

It remains for us to examine and reclaim those of Class II that we can.

In particular, by the end of the Fifth Meditation, we still have no argument for the existence of a material world.

Descartes reclaims the material world in two stages.

By the end of the *Meditations*, he has defended a dualist view.

As I mentioned, Descartes countenances three types of substances:

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

In the first sentence of the Fourth Meditation, he says that our quantity of knowledge of these things comes in this order.

We know a lot about God, some about minds, and very little about bodies.

S1 and S2 are similar in kind; they are both mental substances.

So, we call Descartes a dualist: he believes that there are minds (both finite and infinite) and bodies.

A monist believes that there is only one kind of substance.

Berkeley is a monist who believes that there are only minds.

Hobbes is a monist who believes that there is only matter.

Contemporary science tends toward Hobbesian materialism by identifying the mind with the brain.

VIII.2. Removing Doubts

We reclaimed Class III beliefs only after removing the third doubt.

By parity of reasoning, one might expect Descartes to remove the second doubt before proceeding to Class II beliefs.

But Descartes does not remove the dream doubt until the very end of Meditation Six.

The hyperbolic doubts of the last few days ought to be rejected as ludicrous. The goes especially for the chief reason for doubting, which dealt with my failure to distinguish being asleep from being awake. For I now notice that there is a considerable difference between these two; dreams are never joined by the memory with all the other actions of life, as is the case with those actions that occur when one is awake (AW 68b)

This passage is puzzling, especially the claim that the dream argument is the chief reason for doubting.

One might wonder why such a solution was not available in the First Meditation.

Descartes's solution to the problem of error eliminated the possibility of widespread, systematic doubt.

The dream argument concludes widespread, systematic doubt.

Descartes's solution to the problem raised by the dream argument, the demand for a criterion to distinguish waking from dreaming experiences, depends on his newfound surety in the existence and goodness of God.

Without the security of the criterion of clear and distinct perception, Descartes's solution to the problem raised by the dream argument is implausible.

Similarly, if one rejects Descartes's arguments for the existence and goodness of God, the dream doubt is not so easily eliminable.

The existence and nature of the physical world was brought into doubt by the dream argument.

Descartes now sees a way of judging clearly and distinctly whether we are dreaming.

So he can reclaim the objects brought into doubt by the dream argument.
Still, we must be careful not to be misled by the (false) resemblance hypothesis.
Descartes reclaims the material world in two stages: an argument that it can exist, and an argument that it does exist.

VIII.3. The Material World *Can* Exist

To argue that the material world can exist, recall Descartes's Galilean view of the physical world as essentially mathematical.

I now know that [material things] can exist, at least insofar as they are the object of pure mathematics, since I clearly and distinctly perceive them. For no doubt God is capable of bringing about everything that I am capable of perceiving in this way (AW 61).

God is omnipotent.

So, she can create anything that I can perceive.

In fact, she can create anything that does not create a contradiction.

She may not be able to create a round square, or a sphere that's both blue and red all over.

But physical objects, considered as mathematical objects instantiated, are consistently conceivable.

Still, the question remains whether God did in fact create these things.

VIII.4. The Material World *Does* Exist

To argue that the material world does exist, Descartes depends on the goodness of God.

MW MW1. I seem to sense objects.

MW2. If I seem to sense objects, while there are none, then God is a deceiver.

MW3. God is no deceiver.

MWC. So, material things exist. (AW 64b)

As we saw in the wax argument, in the sun argument, and in the candle argument of the Sixth Meditation, the sensory properties of material things are impugned.

Only the mathematical properties of the material world are known clearly and distinctly.

That is, Descartes never defeats the illusion doubt in the way that he rejects the other two arguments for doubt.

We just do not know what these things are like in themselves, aside from their mathematical properties.

In particular, for Descartes, the essential property of a material thing is its extension.

If the senses are not useful for determining truth, i.e. the nature of the world, Descartes needs to account for our sense ideas.

What are they good for?

For Descartes, it seems puzzling that God would give us senses since they are not useful in our quest for knowledge.

He resolves this puzzle by claiming that the senses provide natural protection of our bodies, 65a–b.

This is just the best structure for humans.

Since the body must have a method for transmitting information to the brain, it is bound to be imperfect.

It is better to be deceived once in a while, than not to have any information for the protection of the body.

See 66a and 68a.

The important point is that bodies are perceived by the mind, and only have extension as a real property. The others are confused representations.

Still, our errors make God seem deceptive, since she could prevent them. Descartes uses the mind/body distinction to block this accusation.

VIII.5. The Mind/Body Distinction

We have reached the last important topic in the *Meditations*, perhaps the one with the most lasting impact. Descartes argues that we are, essentially, thinking things, i.e. minds alone.

From the fact that I know that I exist, and that at the same time I judge that obviously nothing else belongs to my nature or essence except that I am a thinking thing, I rightly conclude that my essence consists entirely in my being a thinking thing (AW 64a).

In other words, the mind is distinct from the body.

Descartes provides two arguments for that distinction, though most attention gets paid to the first.

- MB MB1. I have a clear and distinct understanding of my mind, independent of my body.
MB2. I have a clear and distinct understanding of my body, independent of my mind.
MB3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.
MBC. So, my mind is distinct from my body

MB3 is especially contentious.

The ability of an omnipotent God to separate two objects may not be relevant to the nature and relations of those objects.

Even if there were a God who could separate my mind from my body, perhaps my mind is, in fact, just a part of, or an aspect of, my body.

We could weaken the third premise to remove reference to God.

MB3*. Whatever I can clearly and distinctly conceive of as separate are really distinct.

Substance dualism may not follow from MB3*.

Some philosophers believe that MB3* supports a weaker conceptual dualism.

Conceptual dualism just says that we have distinct concepts for the mind and the body.

It is, essentially, a semantic thesis, and not a metaphysical one.

In contrast to substance dualism, conceptual dualism is not very controversial.

We might express the original MB3 as saying that conceptual dualism entails substance dualism.

MB1 and MB2 rely on characterizations of the mind and body.

Descartes characterizes the mind as that which thinks.

In the *Principles*, he says that every substance has one essential characteristic.

To each substance there belongs one principal attribute; in the case of mind, this is thought, and in the case of body it is extension. A substance may indeed be known through any attribute at all; but each substance has one principal property which constitutes its nature and essence, and to which all

its other properties are referred. Thus extension in length, breadth and depth constitutes the nature of corporeal substance; and thought constitutes the nature of thinking substance. Everything else which can be attributed to body presupposes extension, and is merely a mode of an extended thing; and similarly, whatever we find in the mind is simply one of the various modes of thinking (*Principles of Philosophy* 53).

The core characteristic of thought, for Descartes, is consciousness.

Bodies, on the other hand, are mere machines.

In fact, our bodies are no different in kind from those of other complex animals.

We have similar sense organs, and brain structures, for example.

Cartesians were convinced of the absence of animal souls, and some were notorious vivisectionists.

Nowadays, we tend to see more continuity between our abilities and those of other animals.

[Smart Chimps](#); [Painting Elephant](#)

Descartes's writings on animal souls are in themselves ambiguous.

The most obvious distinction between humans and animals is our ability to reason, our mental qualities.

In the *Discourse*, Descartes further characterizes the distinction between bodies/machines and minds on the basis of language use and behavioral plasticity, 33a.

No machine, he says, including an animal, can use language, or solve a wide range of problems.

Descartes's observations remain salient, today, and are central in debates over artificial intelligence.

Machines have made great strides in language use, but plasticity remains a problem.

While some machines can be trained to do a particular task even better than humans, no machine has the ability to adapt, change, and apply its intelligence to a variety of tasks.

If the mind is essentially thinking, and the body is essentially extended, the mind and the body are clearly distinct things.

Descartes claims that we may confuse the nature of mind and body because of the union of our minds with our bodies.

For example, consider our faculty of imagination, the mind's ability to receive images from the senses.

It seems that we first receive images, and then reason about them, 63a.

Descartes argues that this Aristotelian picture is misleading.

We can even exist, and think, without imagination, p 64a.

Descartes has separated thought from sensation, perhaps his most remarkable achievement.

On Cartesian dualism, the senses have been demoted from their lofty position as the origin of all knowledge.

The senses merely provide natural protection of our bodies.

VIII.6. Arnauld's Objection

Consider the following objection, in the spirit of Arnauld's worries in the Fourth Objections, to Descartes's argument.

If Descartes's argument is valid, then this argument is valid:

- AO AO1. I have a clear and distinct understanding of Clark Kent, as someone who can not fly.
- AO2. I have a clear and distinct understanding of Superman, as someone who can fly.
- AO3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.
- AOC. So, Clark Kent is not Superman.

AOC is clearly false.

But, the form of AO is the same as the form of MB.

Descartes should respond by finding a difference between the two arguments such that AO is unsound while MB remains sound.

Descartes could insist that we do not have a clear and distinct understanding of Clark Kent, for example. Instead, our knowledge of him is inadequate.

Denigrating our knowledge of Clark Kent solves the problem with the Superman argument.

But, that solution might rebound on the first premise of Descartes's original argument.

We have to wonder whether our knowledge of the body is also inadequate.

Perhaps, if our knowledge of the mind were adequate, then we would understand that the mind is the body, and not distinct from it.

Hobbes, for example, urges this view.

VIII.7. Descartes's Second Argument for the Mind/Body Distinction

Descartes's second argument for the mind/body distinction is based on the divisibility of bodies, 67a.

- DB DB1. Whatever two things have different properties are different objects.
- DB2. The mind is indivisible.
- DB3. The body is divisible.
- DBC. So, the mind is not the body.

In response to DB, we might again just not have noticed that the mind is in fact divisible.

There are other attributes of the mind and soul, which Descartes discusses elsewhere.

Descartes mentions that these other attributes contribute to the argument for the distinction between the mind and the body.

The most important attribute is Descartes's argument that knowledge of God is innate, impressed on the soul of human beings like the mark of a painter on his work.

Also, Descartes discusses the distinction between willing and understanding, which helps account for the problem of error.

The way in which discussions of these attributes contributes to the main argument is that they serve as support for the claim that we have a complete understanding of the mind, without any material attributes.

VIII.8. Descartes, Plato, and the Relation Between the Mind and the Body

Plato argued that the world of sensation, or becoming, is not the real world.

The real world is the world of being, the world of the forms.

In the Fourth Objections, Arnauld claims that Descartes has returned to Plato's view.

Descartes denies the accusation.

For Descartes, we are primarily our minds.

But our bodies are part of us, as well.

Descartes steers a narrow path between the old Platonic view that our bodies are completely inessential and a materialist view on which we are just our bodies.

For Plato, the body is at best merely a vessel for the soul.

For Descartes, we are tied to our bodies in a remarkable way, unlike a sailor and ship, 65a.

We do not merely observe injury to the body, but have a special relationship to it.

Philosophers call this relationship privileged access.

VIII.9. Immortality

Lastly, notice that Descartes does not even broach the subject of the immortality of the soul in the *Meditations*. He does discuss it very briefly at the very end of the *Discourse*.

When one knows how different [the mind and the body] are, one understands much better the arguments which prove that our soul is of a nature entirely independent of the body, and consequently that it is not subject to die with it. Then, since we do not see any other causes at all for its destruction, we are naturally led to judge from this that it is immortal (AW 34).

On the surface, this argument looks very poor.

- IS IS1. The body dies.
- IS2. The soul is not the body.
- IS3. We have no reason to believe that the soul dies just as the body does.
- ISC. So, the soul does not die.

One might improve the argument somewhat.

- IS* IS*1. The body dies.
- IS*2. The soul is not the body.
- IS*3. We have no reason to believe that the soul dies just as the body does.
- IS*4. The body and soul, being different substances, have different properties.
- IS*C. So, the soul does not die.

Still, not all objects which have different properties share no properties. I have different properties from you, but we share some properties (like having noses).

§IX. A List of Topics Covered

You should be able to speak and write substantially about each of the following topics.

1. Three doubts: Illusion, Dream, Deceiver
2. Skepticism
3. Three classes of beliefs
4. Rationalism and empiricism
5. *A priori* and *a posteriori* knowledge
6. The cogito
7. Clarity and distinctness as criteria for knowledge
8. Resemblance hypothesis
9. Three sources of ideas (innate, acquired, produced by me) and their characteristics.
10. The problem of error and Descartes's account of error
11. Descartes's metaphysics: infinite mind, finite minds, bodies
12. Necessary truths (e.g. those of mathematics) and how we know them
13. The ontological argument for God's existence
14. The role of our senses
15. The possibility and existence of physical objects
16. The mind/body thesis