John Locke

An Essay Concerning Human Understanding
From Rationalism to Empiricism
Empiricism vs. Rationalism

• **Empiricism:**
  – *All* knowledge ultimately rests upon sense experience.
  – *All justification* (our reasons for thinking our beliefs are true) ultimately relies upon information from sense experience.
    • “Seeing is believing.”

• **Rationalism:**
  – *Not* all knowledge ultimately rests upon sense experience.
  – At least some of our beliefs can be justified without any appeal to information from sense experience, by pure reasoning.
    • E.g., 2+2=4.
A posteriori vs. A priori

• **Empiricists** believe that all knowledge is *a posteriori*.
  
  – To **know** that something is true, my evidence must ultimately be based upon information from the senses.

• **Rationalists** believe that at least some knowledge is *a priori*.
  
  – There are some things we can know on the basis of pure reasoning alone, independently of any evidence from the senses.
Descartes, Locke, Berkeley

• *Descartes* is a *rationalist*.
  – Descartes believes that the reliability of our senses can only be established by a process of reasoning that is itself independent of what we might know through sense experience.

• *Locke* and *Berkeley* are both *empiricists*.
  – Both believe that everything we know must ultimately stem from sense experience, i.e., from our *sensations*. 
Descartes: Meditation 3

I previously ... [believed that I perceived] many things ...—the earth, sky, stars, ... [etc.]—but in those cases what I perceived ... [i.e., immediately] were merely the ideas or thoughts of those things that came into my mind ....
Sensations vs. Material Objects

• According to Descartes, ideas or sensations exist only “in our minds,” and they are what we *immediately* or *directly* know in all conscious experience (both perception and hallucination).

• Material objects, if they exist at all, exist “outside our minds.” They are *not* what we immediately experience. Rather, if/when we are not hallucinating, they are the causes of what we immediately experience (i.e., of the ideas in our minds).
Descartes’ (Locke’s too) Theory of Perception: The mind perceives ideas which are caused by and represent real objects.
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• “Whatsoever the mind perceives in itself, or is the immediate object of perception, thought, or understanding, that I call idea; and the power to produce any idea in our mind, I call quality of the subject [object] wherein that power is.” [Paragraph 8]
John Locke: We immediately perceive only ideas.

• “Whatsoever the mind perceives in itself, or is the immediate object of perception, thought, or understanding, that I call idea;” [Paragraph 8]
Indirect Perception: 
_\textit{a.k.a.}_

Representational Realism 

- What I “directly” or “immediately” perceive are \textit{always} merely ideas “in” my mind. 
  - These include sensations, or any “mental contents.”
- I \textit{infer} that these ideas were caused by, and resemble, \textit{real} objects that exist “outside” my mind.
Paragraph 8 Explained

• “Whatsoever the mind perceives in itself, or is the immediate object of perception, thought, or understanding, that I call idea;”
  – i.e., what we immediately and directly perceive are the ideas our sensations in our mind.
  – We perceive ideas in our minds that represent objects in the real world that exists outside of our minds.
Descartes’ (Locke’s too) Theory of Perception: The mind perceives ideas which are caused by and represent real objects.

Mind’s Eye      Idea or sensation      Material Object

Mind
8 Explained (Cont.)

• “and the power to produce any idea in our mind, I call quality of the subject [object] wherein that power is.”
  – The objects that exist outside our minds have various qualities (or properties) by which they can cause us to sensations.
  – Different qualities in the objects cause us to have different kinds of sensation of them.
Ideas vs. Qualities

• **Ideas:**
  – Exist in our minds.
  – They are the sensations we are directly aware of.

• **Qualities:**
  – Exist in objects that exist outside of our minds.
  – They are the properties in the objects that cause us to have various kinds of sensations.
Mind and World

My Mind or Consciousness

Reality
Outside my Mind or Consciousness

Awareness
I am directly aware of my ideas

My Idea or Sensation of a Tree

In perception real objects cause our ideas

Qualities in the object cause us to have various ideas

The real tree - The 'object' of my sensation
Locke’s Causal Theory of Perception:

Idea: "Whatsoever the mind perceives in itself … the immediate object of perception …"

Quality: "The power [in an object] to produce any ideas in our mind…"
A Question from Descartes
Do our sensations resemble their objects?

- Recall that Descartes’ big worry was whether or not there were any objects outside our minds.
  - (By the end of the 6th Meditation, he assures that there are.)
- But he said we also make mistakes in thinking that our ideas always resembled the objects in the real world that caused us to have those sensations.
I previously ... [believed that I perceived] many things ...—the
earth, sky, stars, ...[etc.]—but in those cases what I perceived ...
[i.e., immediately] were merely the ideas or thoughts of those
things that came into my mind ....

I used also to believe that my ideas came from
things outside [my mind] that resembled ....
[those ideas. This] was false; or anyway if it was
ture it was not ... [justified by what I actually perceived].
Why should we believe that the ideas in our minds actually resemble the objects outside our minds that caused them?
In Locke’s Terms

• Even if we accept that the ideas in our mind are caused by real objects that exist outside our minds
  – (Locke never really questions this)

• Is it true that our ideas always resemble the qualities in the objects that caused us to have those ideas?
Locke’s Answer

• Only sometimes. *Some* of our ideas *do* resemble qualities in the objects, but some of them *do not*.

• Our ideas of primary qualities resemble those qualities.

• Our ideas of secondary qualities do not.
Primary and Secondary Qualities
Qualities:

• **Primary Qualities:**
  - Solidity, extension, figure, mobility, bulk, weight, texture
  - “are utterly inseparable from body…”

• **Secondary Qualities:**
  (“Sensible qualities”)—
  - color, taste, smell, sound, [felt] temperature
  - are caused in us by collections of primary qualities

• The ideas that primary qualities produce in us *resemble* those qualities in the objects that caused us to have those ideas.

• The ideas that secondary qualities produce in us **DO NOT resemble** those qualities in the objects that caused us to have those ideas.
The Crucial Difference

• Some qualities of objects cause ideas in us where these ideas actually resemble the qualities in the object.
  – These are “primary qualities.”

• Some qualities of objects cause ideas in us where the ideas do not resemble the qualities in the object.
  – These are “secondary qualities.”
Explaining the difference
Explaining Sensations

• We have scientific explanations for how objects can cause us to have sensations.

• These explanations distinguish between the sorts of qualities objects must have (in order to be able to cause sensations is us) and the sorts of sensations we can have of those objects.

• As long as a specific quality in the object always causes the same sort of sensation in us, we will say that the sensation is “of” that quality.
• “The next question to be considered is, how bodies produce ideas in us; and that is manifestly by impulse ...”

  – By “impulse” here, Locke is suggesting that objects “impel” particles that interact with our sense organs.

  – This is the physics of his day. Today, we would say that objects reflect wavelengths of light, rather than that they “emit” particles.
• “If .. external objects be not united to our minds when they produce ideas [in us] ... it is evident that some motion must be thence continued by our nerves ... by some parts of our bodies, to the brains ... there to produce in our minds the particular ideas we have of them.”
Paragraph 13

• “... the ideas of secondary qualities are also produced by the operation of insensible particles on our senses. ... the different motions and shapes, sizes and numbers of such particles, affecting our sense organs, producing in us the various sensations we have of the colours and smells of bodies.”
“It being no more impossible to conceive that God should attach such ideas [i.e., ideas of colours and smells] to motions that in no way resemble them than it is that he should attach the idea of pain to the motion of a piece of steel dividing our flesh, which in no way resembles the pain.”
In other words

• If the sensation of pain doesn’t resemble the qualities in the object that caused that sensation,

• Why should the sensations or color or smell be any different?

• Sensations need not resemble the qualities that cause them in order to be sensations “of” them,
  – they only need to be caused by these qualities.
So,

- Objects outside our minds cause sensations in our minds.
- Different properties of objects cause different kinds of sensations.
- Science hypothesizes the properties objects must \textit{really} have to explain the ideas we have of them.
- As long as a specific quality in the object uniformly causes a certain kind of sensation in us, there is no reason that these qualities need to \textit{resemble} the sensations that they cause.
Examples of Secondary Qualities
“Consider the red and white colours in porphyry....”

• “Hinder light from shining on it, and its colour vanishes
  – It produces no idea in us
• Upon the return of light it produces these same appearances in us
• Can anyone think any real alterations are made in the porphyry by the presence or absence of light
  – when, ... it has no colour in the dark?”
If the sensation changes (when I change the light)

But the object doesn’t …

Then the changing sensation can’t resemble ….

the unchanging quality in the object.
Other examples of the same principle:

• The sound of an approaching or receding siren.
  – The *sound* the siren produces doesn’t change, but the *pitch* that we hear does.

• Put a hot hand in luke-warm water, and it will feel cool. Put a cold hand in the same water, and it will feel warm.
  – But the water (and all its qualities) haven’t varied.
  – So, neither the (sensations of) coolness nor warmth (that you feel) can resemble their causes “in” the water (because the sensations are different, but have the same cause).
“True Colors?”
Back to Locke

• Locke says our *ideas of* primary qualities “are resemblances of them.”
  – i.e., an object’s primary qualities cause ideas in us that *resemble* those very qualities.

• Locke says *our ideas of* secondary qualities do not.
  – i.e., an object’s secondary qualities cause ideas in us that *do not resemble* those qualities in the object that caused us to have those ideas.
Its Not Easy Being Blue

• So, being blue (a secondary quality) is a property an object has because it has the “power” to cause certain kinds of ideas in our minds.

  – It has this “power” because of the primary qualities of the particles out of which it is composed, and how these particles interact with our bodies in sense perception.
Being Blue

• So the “blueness” of a blue chair is “real” but not an \textit{ultimate} or primary quality of the chair.
  – The blueness of the chair is explained in terms of the fundamental properties of the particles out of which it is composed.

• We call the chair blue because the ultimate particles it is made out of reflect certain wave lengths of light, which in turn cause certain sorts of sensations to exist in our minds.
"WHERE'S THE BLUE?"
Where did “Blue” go?

• Which is *blue*?
  – The sensation (idea) in our mind, or
  – The quality (power) in the object?

• *Blue* is a quality of objects.
  – Sensations aren’t *blue*, any more than they are *heavy*!
  – Sensations are *of* blue.
“Stop me if you’ve heard this one
....”
Falling Trees

– You’ve all heard this one:

• If a tree falls in the forest with no one there to hear it, does it make any sound?

• How do you think Locke would answer this question.

• What does science tell you?

• Hint: The “correct” answer is: Yes and No.
Answer

• The tree in the forest disturbs air waves whether or not there is anyone there to hear it. (This is “realism.”)

• But if no one is present, it doesn’t produce any auditory sensations in anyone’s mind.

• The confusion: We use the word “sound” both to talk about airwaves and to talk about sensations.

• But these are different things. The falling tree disturbs air waves (makes a “sound” on one use), but doesn’t cause any sensations (doesn’t make a “sound,” on the other use).
Our knowledge of external existences
Our knowledge of “external” things

• Locke claims that we immediately perceive only ideas.
  – He believes that, in sense perception, these ideas are *caused* to exist in us by external objects (objects that exist outside our minds), but he nevertheless believes that we are directly aware only of the ideas in our minds, not the external objects that cause them.

• So, how can he be certain that there are such external objects, even though we never directly perceive them?
Locke’s Causal Theory of Perception:

We directly perceive only ideas that exist in our minds.

External objects cause the ideas we perceive, but are not themselves directly perceived.
Knowledge of external things

• “The notice we have by our senses of the the existing things without us, though it be not altogether so certain as intuitive knowledge or the deductions of our reason employed about the clear and abstract ideas of our own minds; yet is it an assurance that deserves the name of knowledge.”
We know there are external objects

- So, our certainty of the existence of external objects (objects which cause our sensations, but are never themselves directly perceived) is not as great as intuitive or demonstrative knowledge, but is still certain enough to be called “knowledge.”
Practical certainty

• “The certainty we have of things existing in rerum natura [i.e., in the natural world] when we have the testimony of our senses is not only as great as our frame can attest to, but as our condition needs. For, our faculties ... serve our purpose well enough, if they will give us but certain notion of those things [like pleasure and pain], which are convenient or inconvenient to us.”
Still skeptical?

- Still, couldn’t it all be a dream?
- “If our dreamer pleases to try whether the glowing heat of a glass furnace be barely a wandering imagination of a drowsy man’s fantasy, by putting his hand into it, he may perhaps be wakened into a certainty greater than he could wish ....”
  - But does that really respond to the determined skeptic?