John Locke, Primary and Secondary Qualities, Real and Nominal Essences
An Essay Concerning Human Understanding
Book II; Ch 8, Ch 13 #18-20
Book III; Ch 2, #1-3 and #7, Ch 3, Ch 6 #4, Ch 10 #1-3
Empiricism

- “No idea in the mind that is not first in the senses”
- Simple ideas come from the senses
- Complex ideas built from simple ideas
Locke’s Essay, Book II, Ch viii
Primary and Secondary Qualities
Ideas and qualities

Ideas: experiences in the mind

Qualities: properties of objects
Primary and secondary qualities

Primary: solidity, extension, figure
Secondary: yellowness, bitterness, warmth, etc.
What is a primary quality?

Definition 1: They are explanatorily fundamental.

- Secondary qualities explained by primary
  - Heat explained by “violent agitation” of particles

- Primary qualities not explained by further qualities
  - Primary qualities universal
What is a primary quality?

Definition 2: They resemble our ideas.

- Ideas of secondary qualities are arbitrary.

- Compare:
  - ‘hot’ vs. ‘caliente’
  - your idea of heat vs. a Martian’s

- Primary qualities?
  - map vs. Cartesian coordinates

Hot!
Primary and Secondary Qualities

Locke’s arguments

- Fire causes sensations of heat and sensations of pain. Pain is not a primary quality, so maybe heat is not primary either.

- Rubbing things together makes them hot. This suggests that heat is a “violent agitation.”

- Do these arguments support fundamentality?

- Do they support resemblance?

- Comparison with Descartes?
Secondary qualities are mere powers.

Yellowness: power to produce idea of yellow in us

Heat: power to produce idea of heat in us
Locke’s *Essay*, Real and Nominal Essence

Book II; Ch 13 #18-20
Book III; Ch 2, #1-3 and #7, Ch 3, Ch 6 #4, Ch 10 #1-3
It could have been worse...

I could have been born in Nigeria and gotten Malaria.

I could have been born in the 14th and gotten the Bubonic Plague.

I could have been born to different parents and gotten cystic fibrosis.

I could have been born a pig and gotten swine flu.
What properties are essential?

individuals
“natural kinds”
geometrical kinds
Real vs. nominal essences

Nominal essences
- “workmanship of the understanding”
- based on observable characteristics
- knowable by reflecting on our own ideas

Real essences
- really exist in nature
- based on underlying properties that explain observable characteristics
- knowable by empirical investigation
Snakes and glass lizards

- real essence of snakes due to DNA
- DNA similarities *explain* observable similarities among snakes
- but glass lizard has same observable traits but different real essence
Real vs. Nominal
Essence
The essence of octagons

- Locke: a priori knowledge is possible
- real essence = nominal essence
- Trifling propositions (tautologies):
  - Octagons are octagonal.
  - Octagons are 8-sided.
  - Octagons have 8 interior angles.
  - Octagons have interior angles summing to 1080 degrees.
“Nothing essential to individuals”

Essential/accidental defined relative to a type of classification

Ch vi, #4 (p. 193)

unintelligible: “What is essential to this thing?”

weighing more than 1 oz. essential for a doorstop
being rabbit-shaped essential for a rabbit sculpture