

# Rationality and Truth

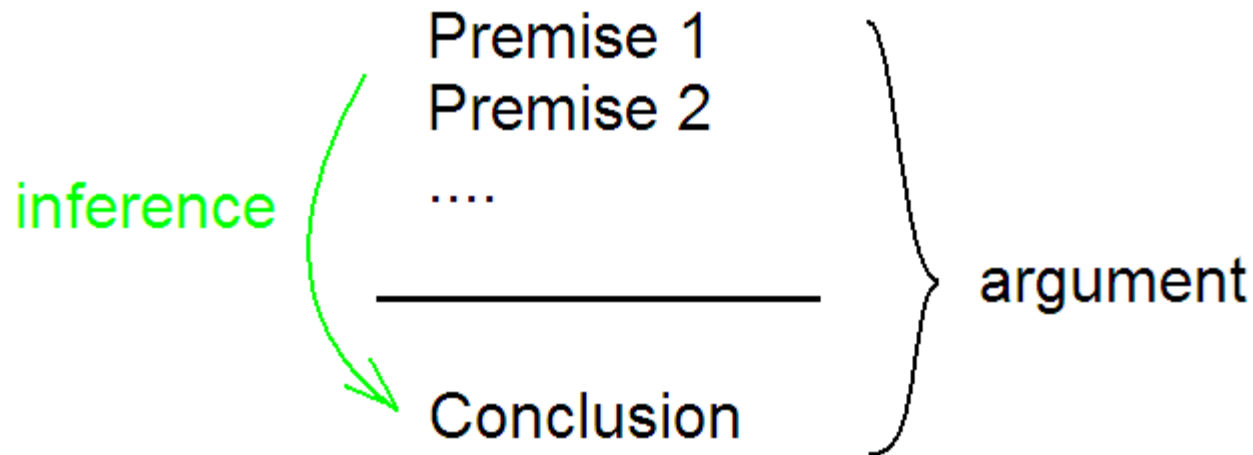
What is objectivity?

# Claim vs. Argument

- A *claim*, view, opinion, or thesis, is just what you believe to be true.
- An *argument* is an attempt to *persuade* someone to accept a certain claim.
  - An argument is based on premises, or evidence. The claim (conclusion) should be supported by these premises.

# Argument

- An *argument* includes premises, a conclusion, and an inference from the premises to the conclusion.



# “Reasoning”?

- In some cases, it requires a long thought process to get from the premises to the conclusion. Often this thought process involves additional beliefs, that are arranged like stepping stones leading from the premises to the conclusion.

Conclusion

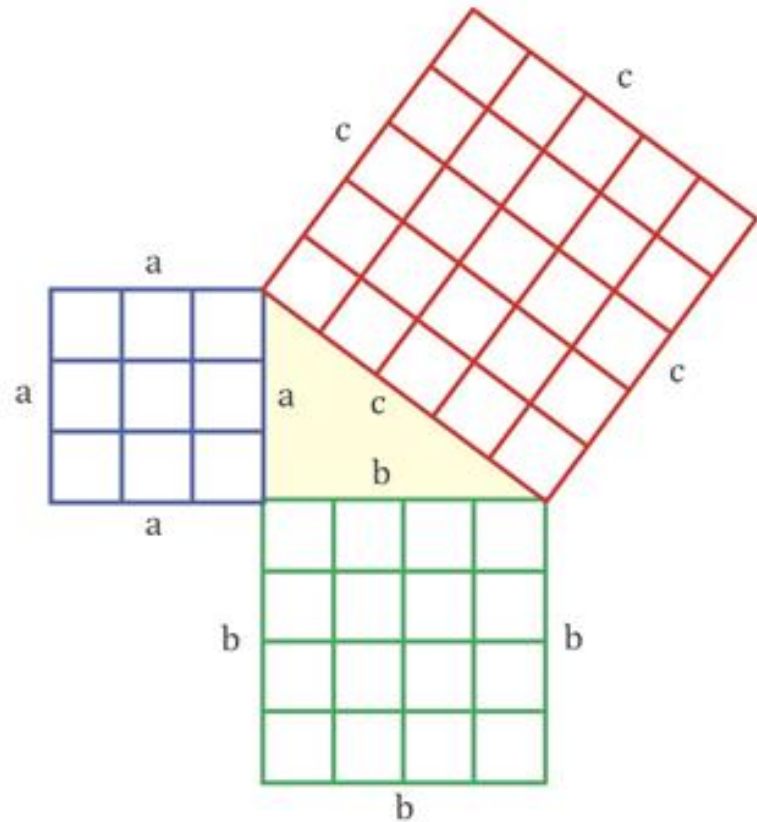


Premises

# E.g. the Pythagorean theorem

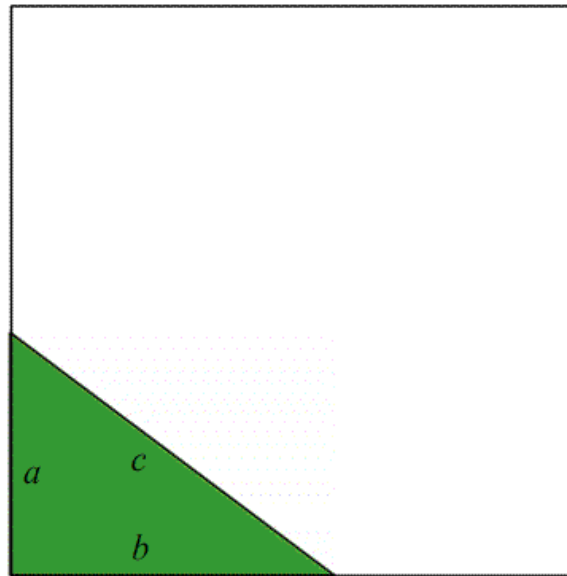
The Pythagorean theorem says that a square drawn on the longest (hypoteneuse) side of a triangle is equal in area to the sum of the squares on the two shorter sides.

I.e.  $c^2 = a^2 + b^2$ , for the yellow triangle to the right.



# Proof of the Pythagorean theorem

Here's a visual proof of the Pythagorean theorem, which lays out the inference in 4 or 5 steps. Each step is relatively intuitive.



A right triangle, with legs  $a$  and  $b$  and hypotenuse  $c$ .

E.g. what is the shape of the earth?

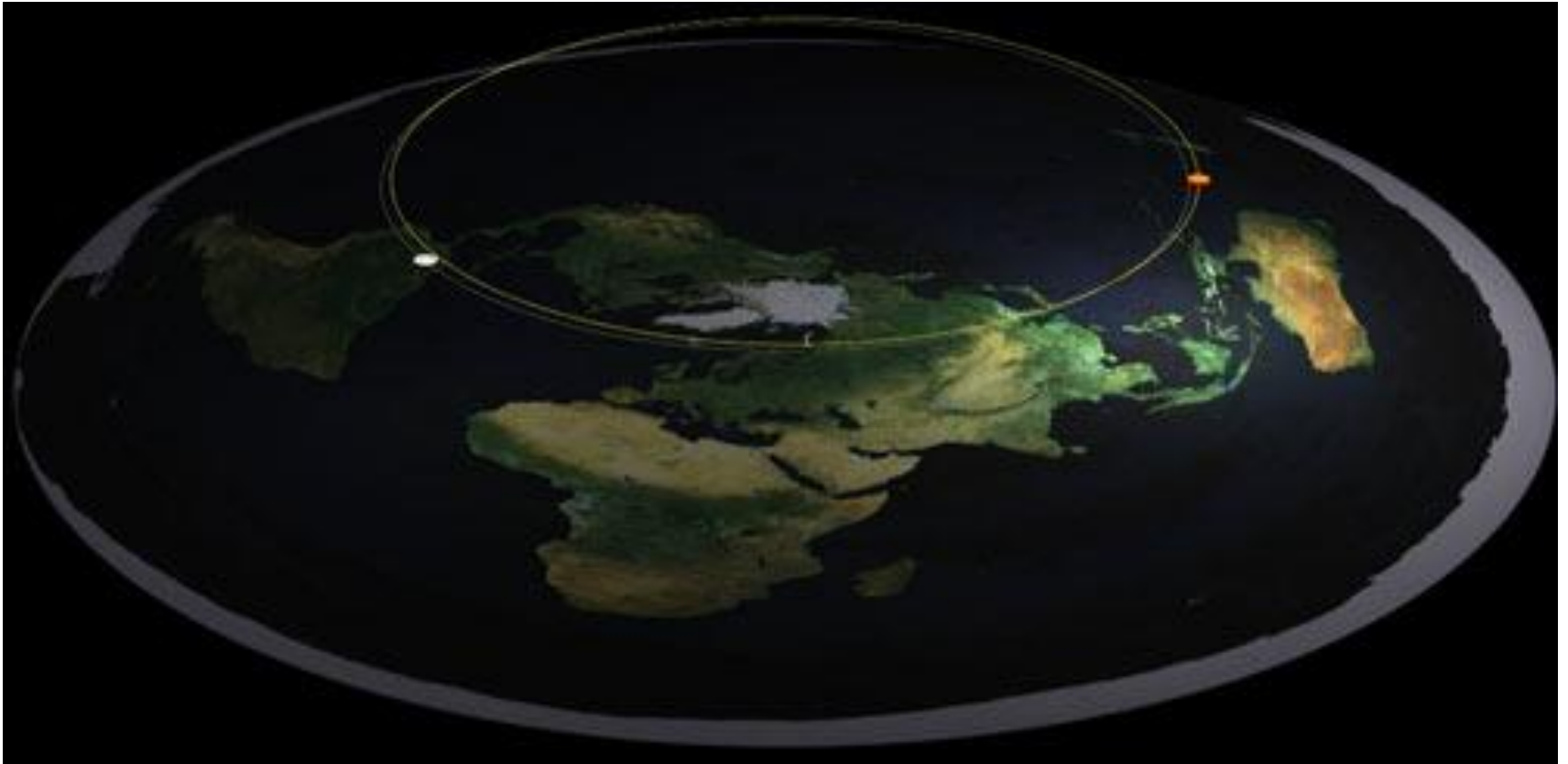
**Claim 1:** the earth is round, like a ball

**Claim 2:** the earth is flat, like a plate.

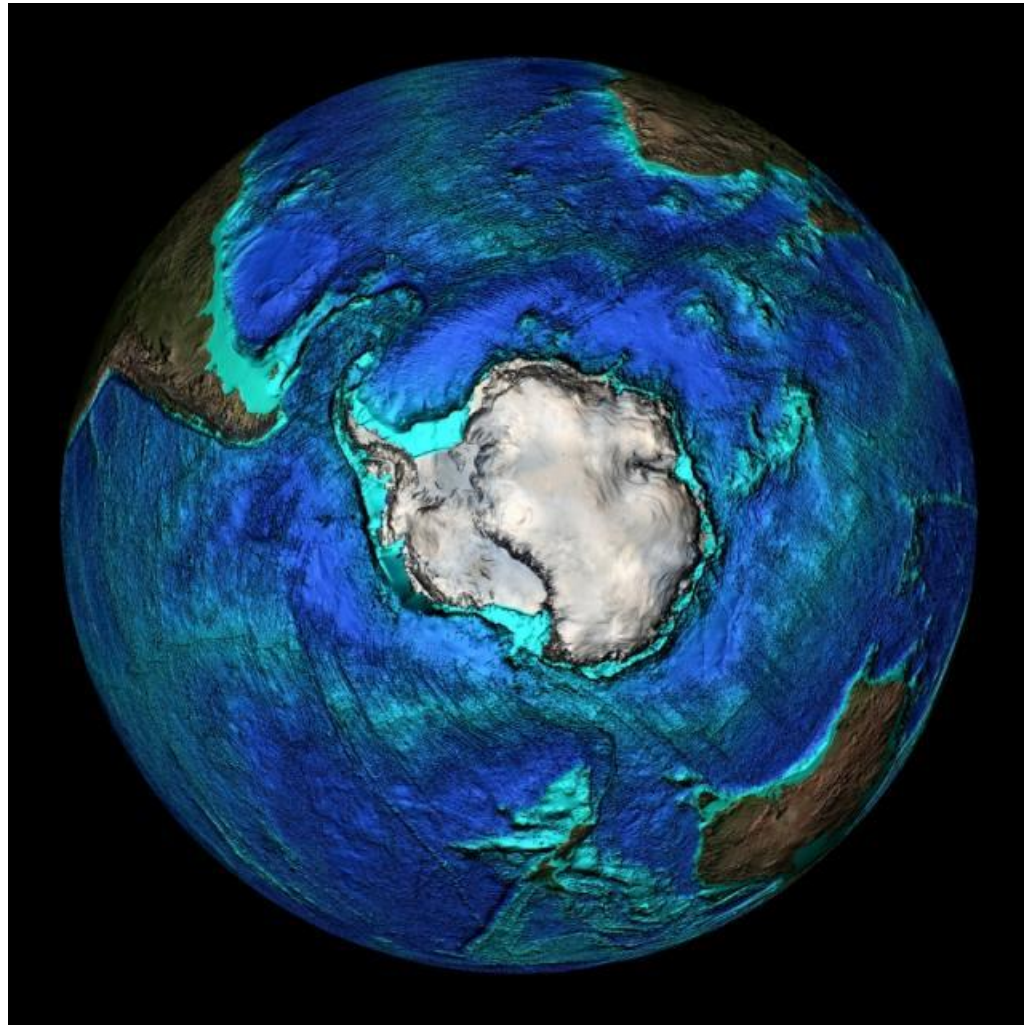
(A claim is also called a *thesis*.)



# Flat earth *thesis*



# Round earth *thesis*



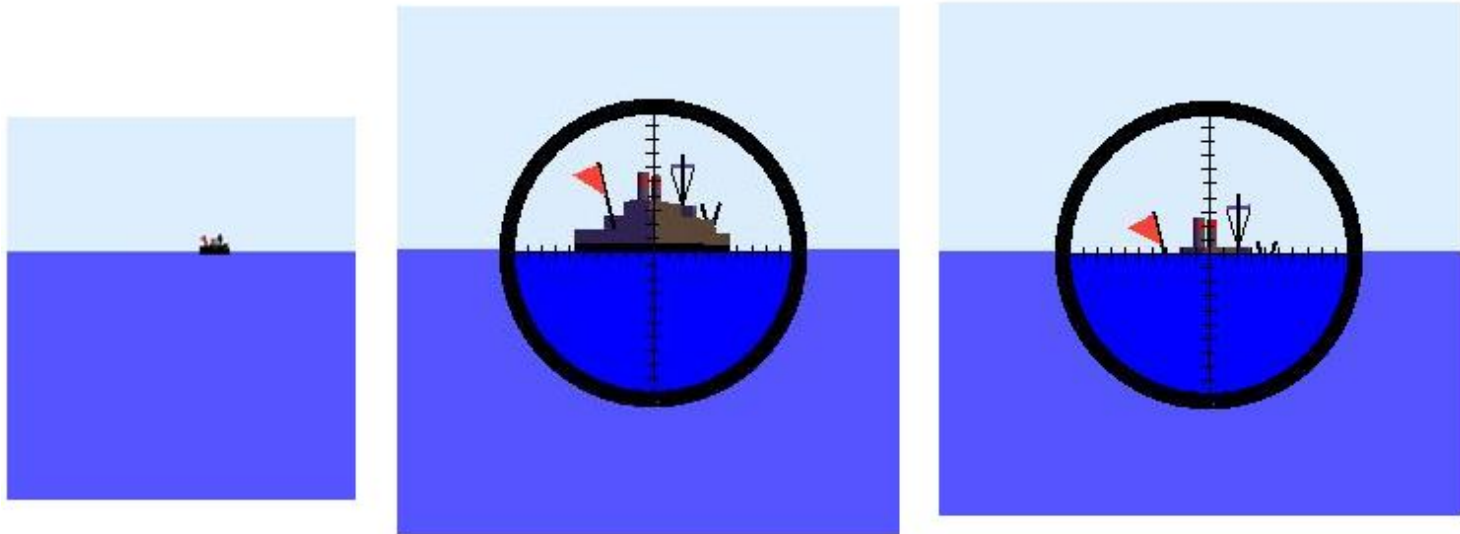
# Evidence for the flat earth thesis

- When you sail south (from any starting point) you eventually reach the wall of ice that surrounds the earth.



- If the earth were round, then the ground would be sloped in most parts of the world (but it isn't, except on the sides of mountains).

# Argument for a spherical earth



A ship that sails into the distance appears to sink below the horizon

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∴ The earth is a sphere

# Argument, inference

- When we say that a belief (B) is *based on* evidence (E), what do we mean?
- We mean that a person who is provided with the evidence (E) can logically reason *from* that information *to* the belief (B).
- I.e. they *infer* B from E, or construct an argument which concludes B from premise E.

Conclusion



Inference

Premises (Evidence)

# *Valid* argument

- A *valid* argument is one where the conclusion follows with certainty from the premises.
- In other words, *if* the premises are all true, then the conclusion must be true as well.
  - (N.B. a valid argument may still be useless, if it has a false premise.)

E.g.

All humans lay eggs

Justin Trudeau is human

-----

∴ Justin Trudeau lays eggs

- Is the argument *valid*?
- Yes – but the argument is still worthless, since the first premise is false.



# Valid?

*Premises.*

1. If God were perfectly good he would want to eliminate all evil.
2. If God were all-powerful he would do whatever he wanted.
3. Evil things happen.

*Conclusion.* God isn't both perfectly good and all-powerful.

- The argument is *valid*, but arguably not *sound*.
- A “sound” argument is valid, *and* has premises that are all true/ known/ acceptable.
- There are good reasons to doubt premises 1 and 2, so the argument is generally considered a failure.

*Premises.*

1. The Baathist regime in Iraq has used chemical weapons in the past.
2. The regime has consistently blocked all UN attempts to inspect its present weapons.
3. The country is suffering from severe and crippling economic sanctions as a result of its refusal to allow UN inspectors access to its weapons.

*Conclusion.* The Baathist regime clearly possesses weapons of mass destruction, such as chemical and biological weapons.

# Strong and Weak arguments

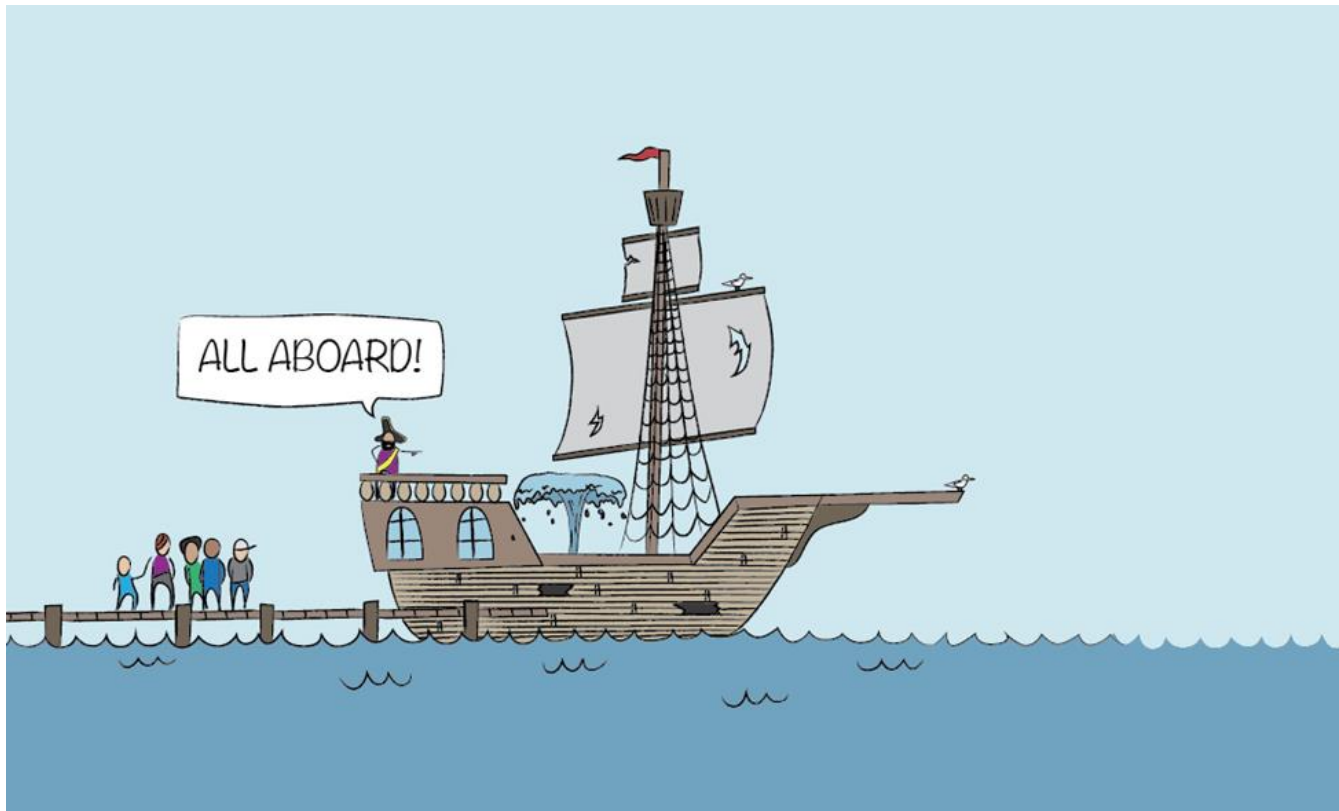
- A *strong* argument is one that renders its conclusion probable. The premises are themselves probable, and the conclusion is probable given the premises.
- A *weak* argument is one that fails to make the conclusion probable. Either the premises are improbable, or the premises have little relevance to the conclusion (or both).

# What is truth?

- Truth is something that beliefs and sentences can have (or lack).
- If a belief isn't true, then is it always false?
- Some beliefs are (perhaps) neither true nor false, e.g.
  - “The present king of France is bald”
  - “Elves have DNA that's almost identical to humans”
  - “Phlogiston is heavier than air”

- It's good to have true beliefs, isn't it? Why is that?
- (What is the *purpose* of beliefs?)
- Does the truth change? (Should we say, for example, that in the Middle Ages the earth was stationary, and at the centre of the universe?)
- Does the truth depend on what people think? If everyone agrees on something, could it still be false?

- Clifford talks about beliefs that, though sincere, are “based on insufficient evidence”.
  - Philosophers call such beliefs “unjustified”.



- *Can justified beliefs ever be false?*
- Yes. E.g. Harry Potter was justified in believing that Snape had betrayed Dumbledore, yet Snape was carrying out Dumbledore's orders all along.



- *Can unjustified beliefs ever be true?*
- Yes. E.g. imagine that the ship in Clifford's story reached its destination safely, making the ship owner's belief true.



# Anti-Realism

- Not all philosophers take this objectivist (or ‘realist’) view of truth and knowledge, however.
- Some, such as Richard Rorty and Michel Foucault believe that a ‘true’ belief is just one that meets the standards of justification that are accepted in the culture.
  - (The distinction between *true* belief and *justified* belief disappears, for these thinkers.)

- E.g. Rorty suggests that we

“give up the idea of Truth as something to which we were responsible. Instead, we should think of ‘true’ as a word which applies to those beliefs upon which we are able to agree, as roughly synonymous with ‘justified’ ...”

*(Pojman, p. 158)*

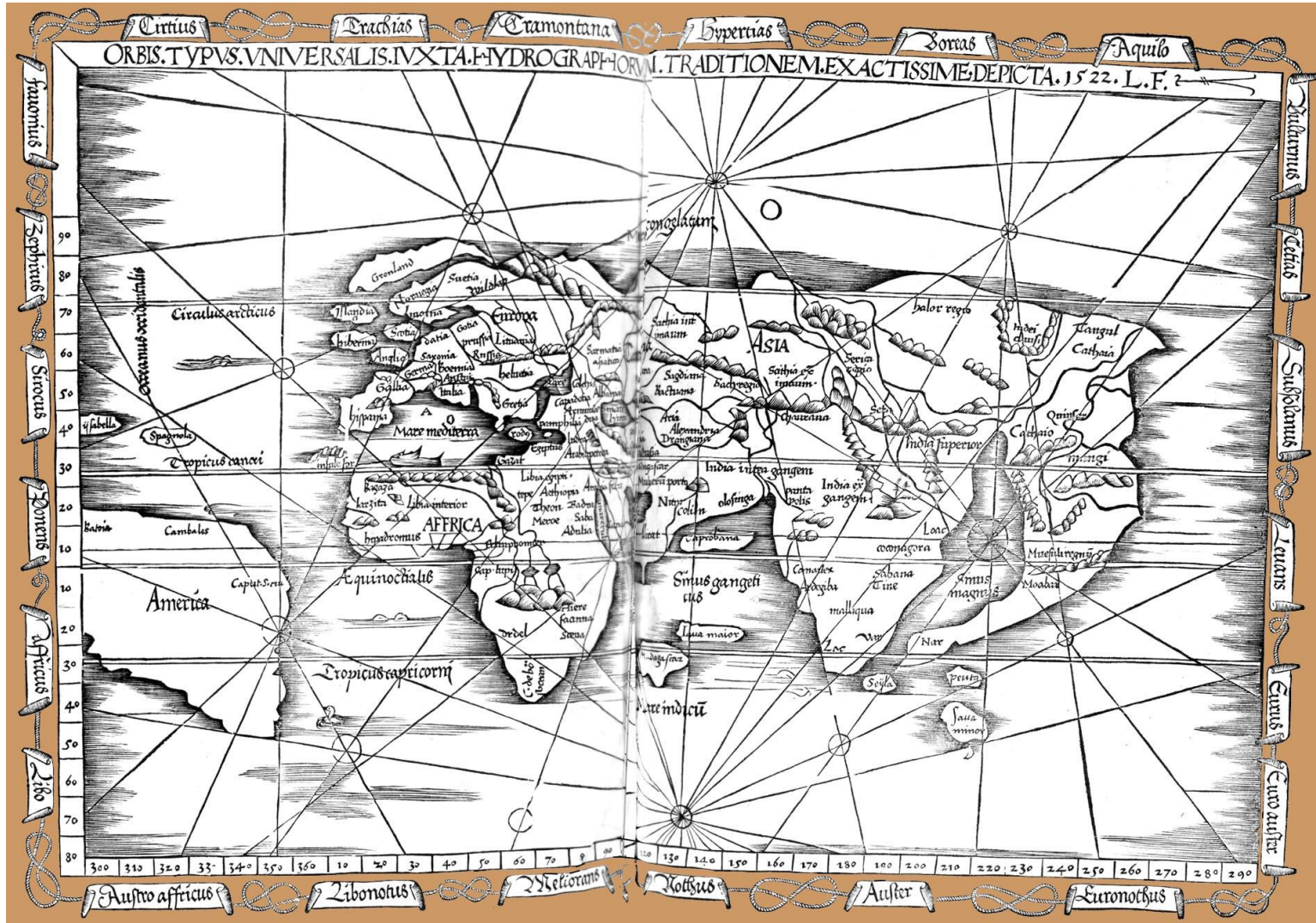
# Michel Foucault – ‘regimes of truth’

- “ ‘Truth’ is to be understood as a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements”.
- Each society has its regime of truth, its ‘general politics’ of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements ...

# Anti-Realism

- Anti-realism has deep philosophical roots, some of which are described in the brief history of philosophy.
  - Why would anyone accept anti-realism?
- One reason to be an anti-realist is the discovery that scientific theories are not immune from politics, religion and other aspects of culture.
  - The so-called ‘real world’, *as we understand it*, is largely a product of cultural practices.

# E.g. Is this 'world' objective?



Late Medieval World Map (1522)

# 1552 map



1513



# Is the map purely a social construct?

- Is it just a *fluke* that these old maps roughly correspond, in general, to satellite photos of the same territory? Or that some are better than others?
  - Of course not. The truth *is* accessible (approximately, partially and fallibly) via careful observation and reasoning.



# 3 Stages of critical thinking

**Naïve realist:** Knowledge is clear, certain and provided by authorities.

**Relativist:** The authorities often disagree, so who can say who is “right”? All beliefs are of equal value, and every sincere opinion is valid.

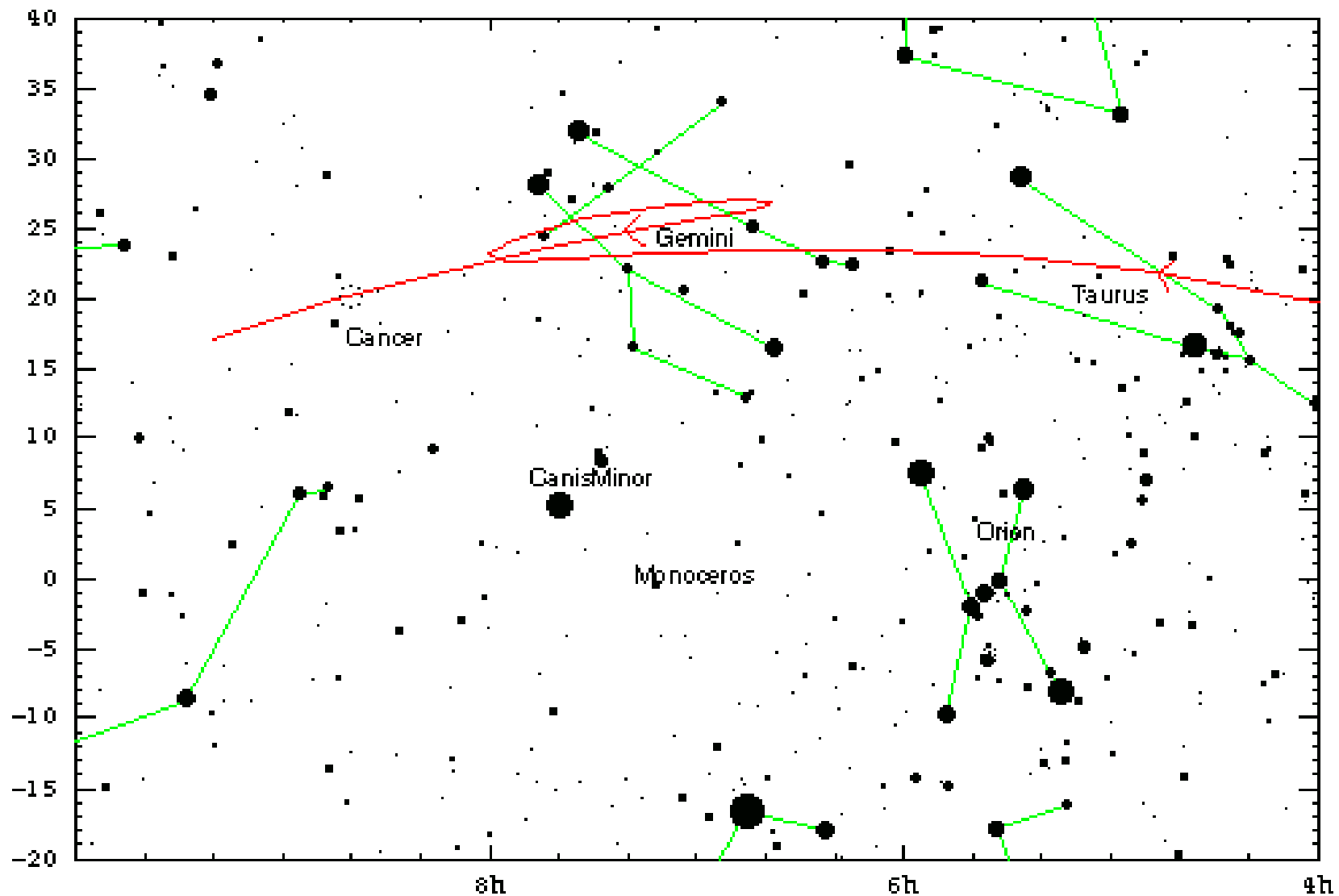
**Sceptical Realist:** Some beliefs are more reasonable than others, based on the available evidence, even though one cannot be certain.

(Adapted from John Chaffee, *The Philosopher's Way*, 15-19.)

# Appearance vs. Reality

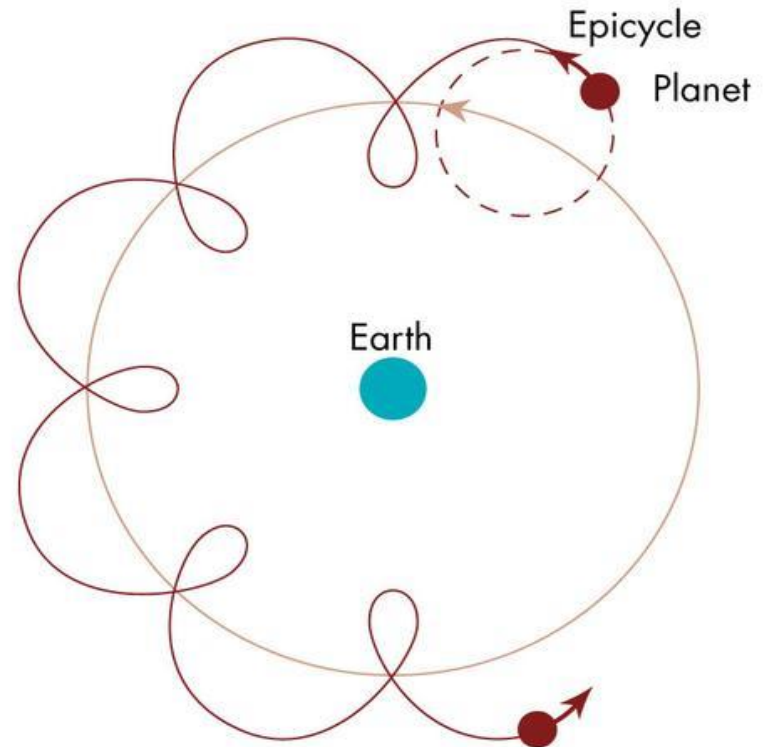
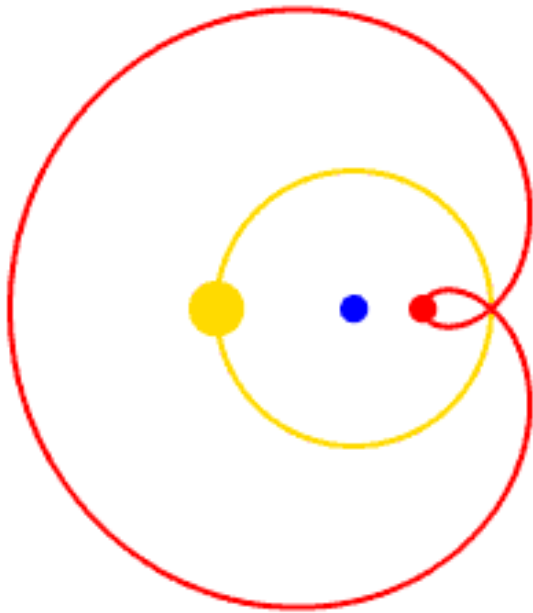
- For realists such as Plato, it is important to distinguish “how things really stand” from how they *appear* to be, for a particular person.
- Today, science is motivated by the same desire to attain an objective understanding of the world, which might be quite different from how it appears to us.

# E.g. Plato's problem with Mars



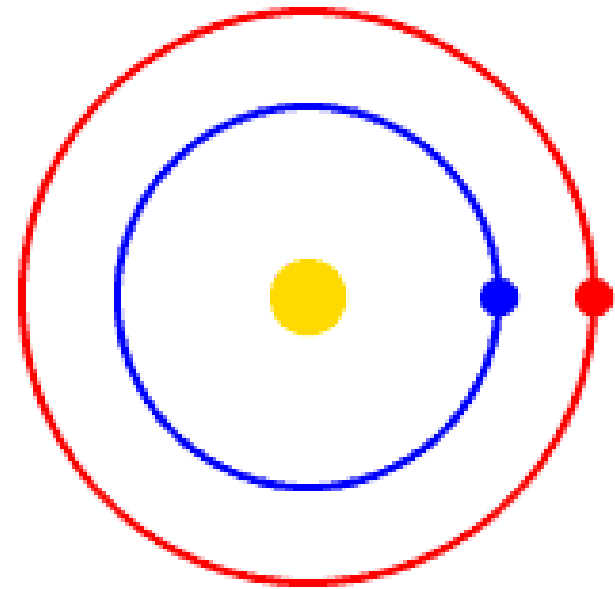
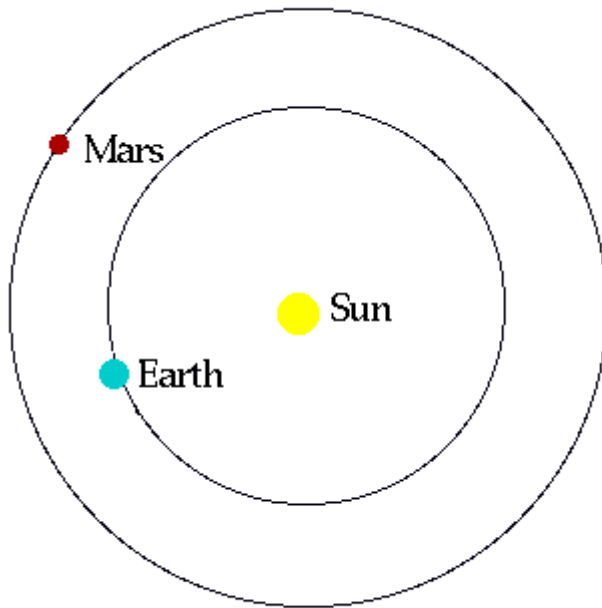
- Mars appears to travel backwards through the heavens, now and then.
- But Plato couldn't accept that the heavens were chaotic or irregular *in fact*. Rather, he thought, in reality the planetary motions must be perfect, consisting of regular, circular motions. The combination of those circular motions, viewed from the earth, merely generates the *appearance* of an irregularity.

# Ptolemy's solution: deferent and epicycle



Ptolemy: 100-168 AD

# Kepler's solution



Johannes Kepler: 1571 – 1630.

- Plato was (more or less) right, as it turns out. Mars's real motion is (approximately) a circle.
- But what does it even *mean* to talk of a planet's "real" or "true" motion? Is there really an "objective viewpoint"?
- What would this "objective viewpoint" be?

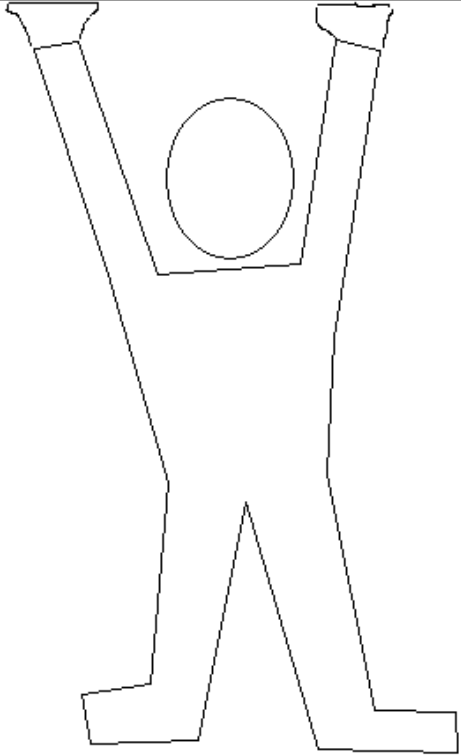
# Things to Avoid (fallacies)



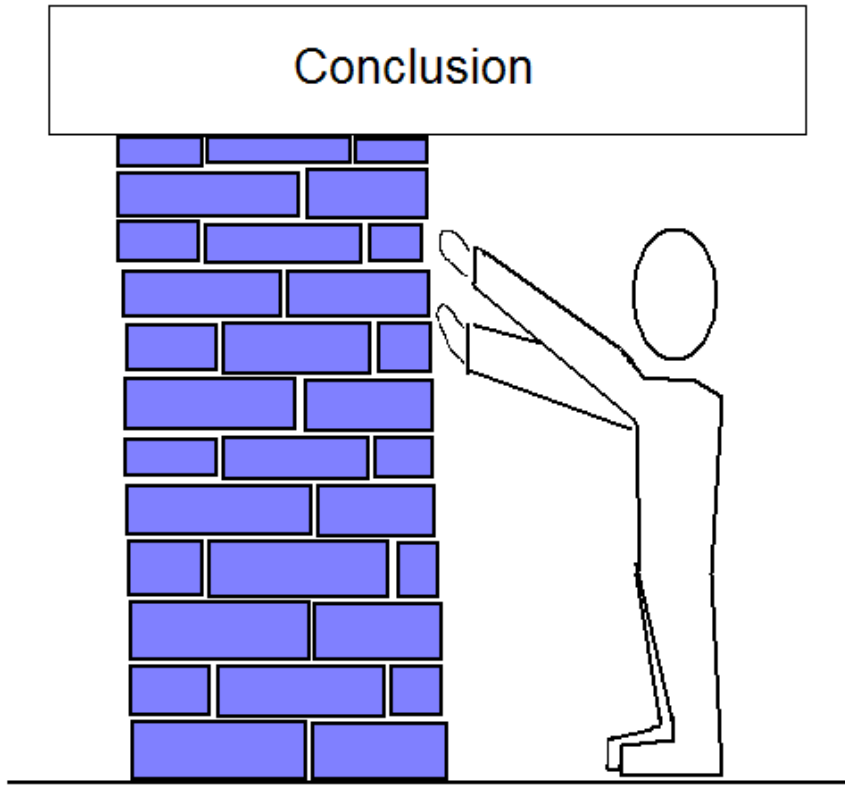
- Appeals to authority are quite acceptable in many contexts. But not in philosophy papers, beyond simple matters of fact, or well-established science.



Conclusion



Argument from Authority

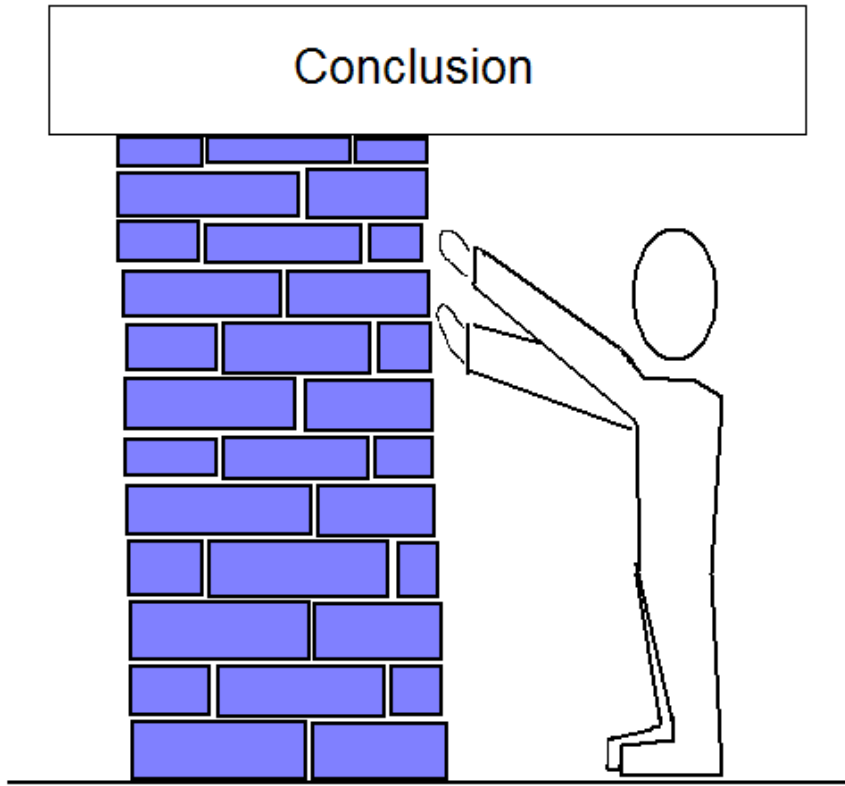


Normal argument

(based on evidence, not authority)

# Ad Hominem

An *ad hominem* (“to the person”) fallacy is committed when someone attacks or criticises the person making a claim, rather than the argument used to support the claim.



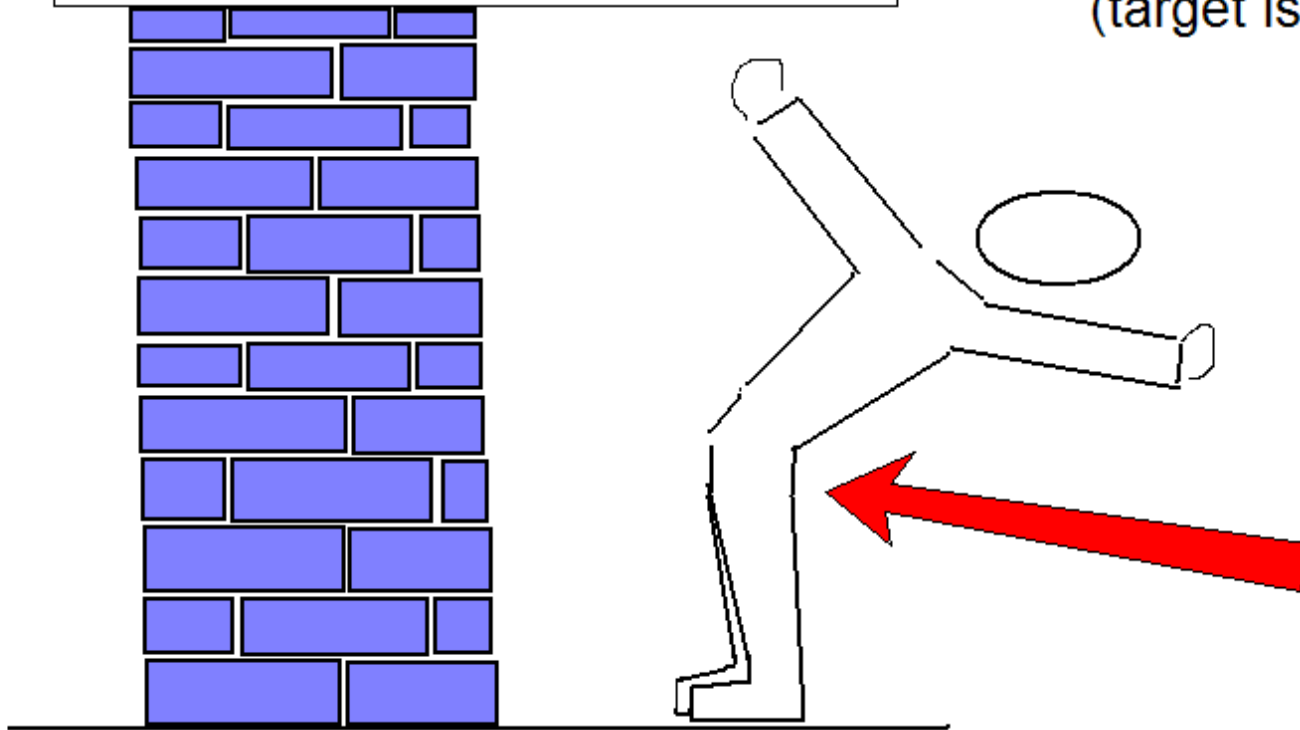
Normal argument

(based on evidence, not authority)

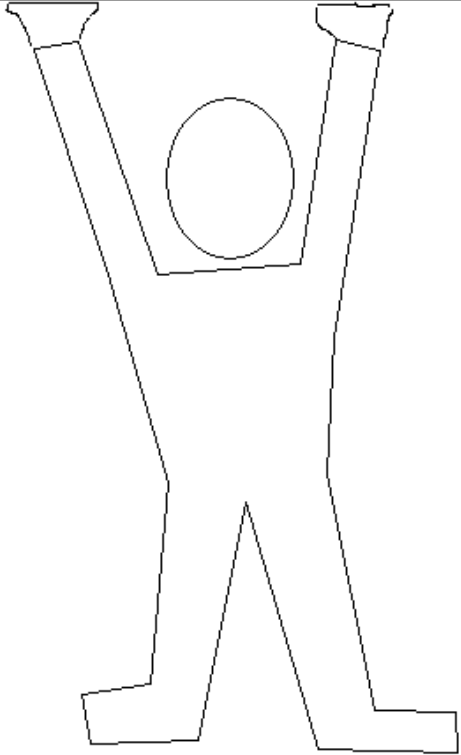
Conclusion

Ad Hominem Fallacy

(target is irrelevant)

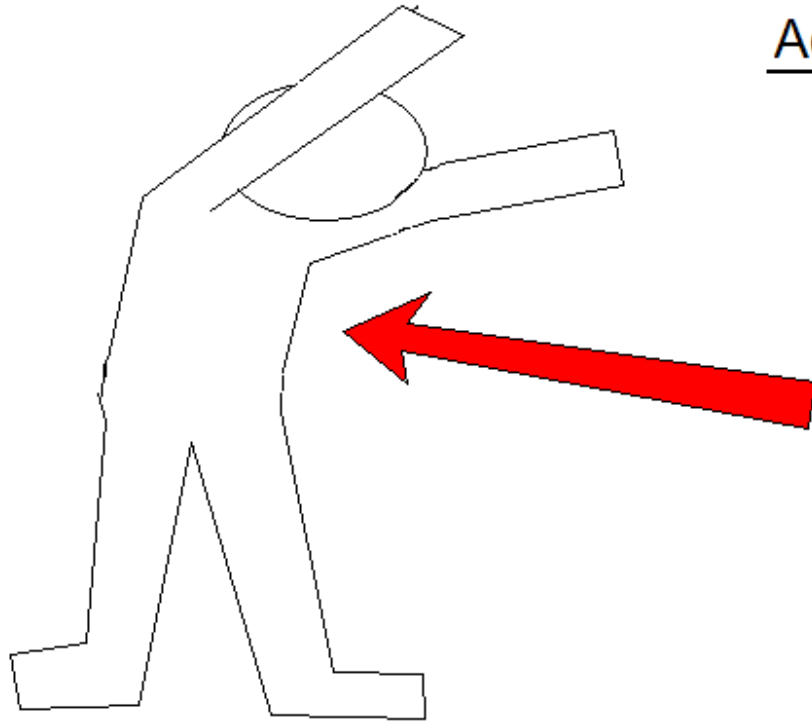


Conclusion



Argument from Authority

Conclusion



Ad Hominem (fair game)

DEBATE STRATEGY: WIN ARGUMENTS  
WITH AD HOMINEM ATTACKS





# Genetic fallacy (a type of ad hominem)

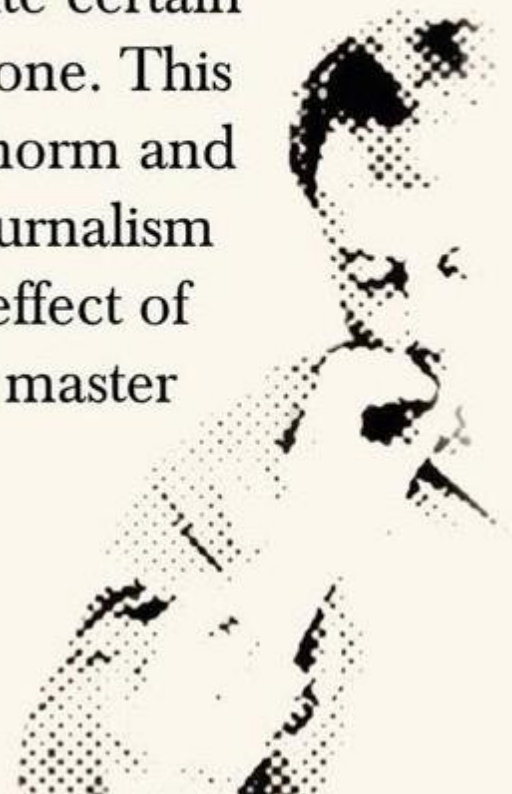
I had become too accustomed to the pseudo-Left new style, whereby if your opponent thought he had identified your lowest possible motive, he was quite certain that he had isolated the only real one. This vulgar method, which is now the norm and the standard in much non-Left journalism as well, is designed to have the effect of making any noisy moron into a master analyst.

—

**Christopher Hitchens,**

*Hitch-22: A Memoir,*

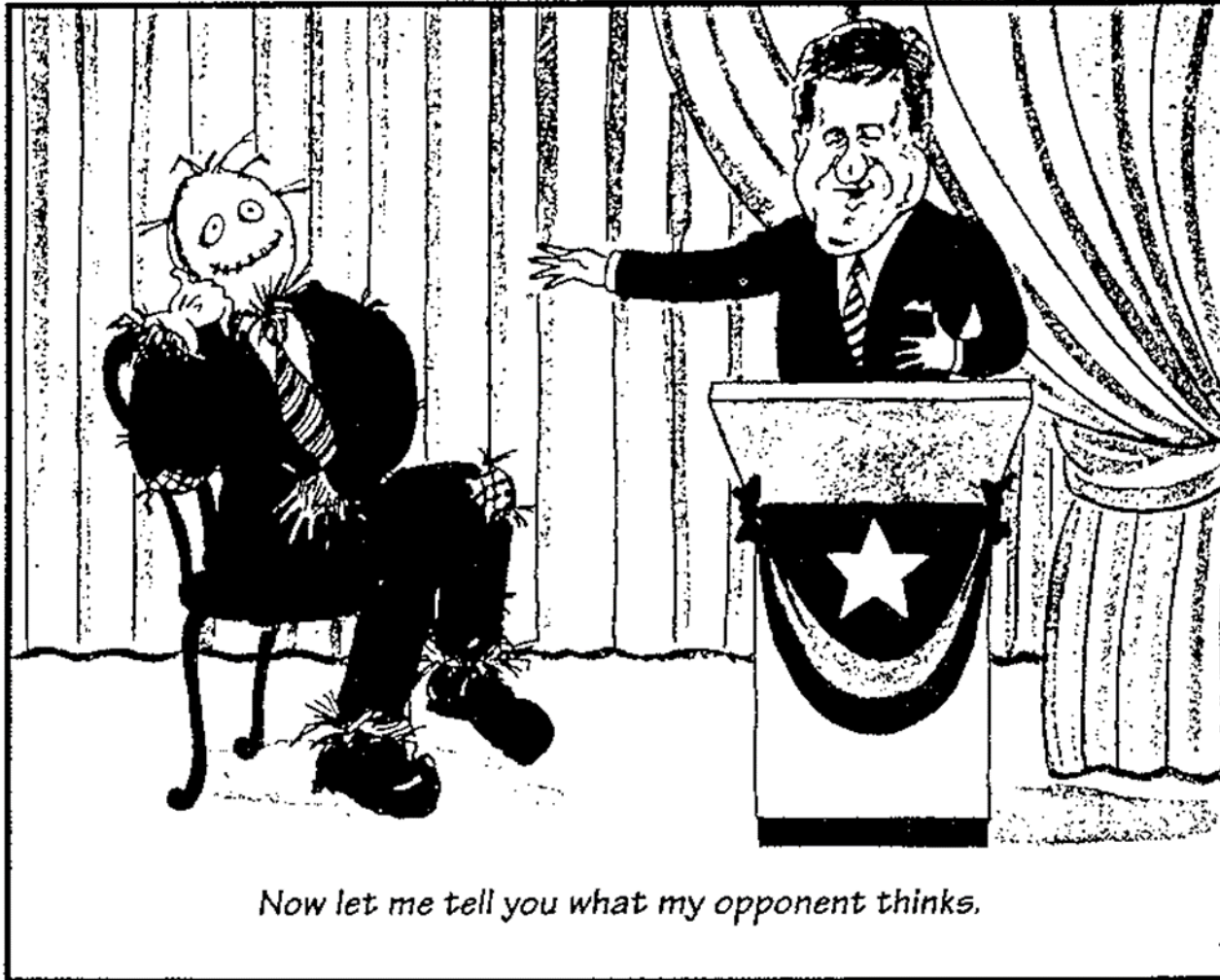
2010



# Straw Person

A straw person fallacy occurs when someone's claim or argument is misrepresented, or distorted, in order to (seem to) discredit it.

# Straw Person



# Straw Person



Fred: We should clean out this closet.

Betty: But we did it just last April. Do we have to do it every day?

Fred: Well we can't let our junk pile up forever!

# Begging the Question (= circular argument)

- This fallacy is committed when the speaker appeals to premises that are too similar to the conclusion.
  - In this case, if the audience has any doubt about the conclusion, then they will be equally doubtful of the premises, so that argument is worthless.

# Circular arguments

“Spanking a toddler is immoral, because it’s always wrong to hit children.”

“Religious belief isn’t rational, because it’s based on faith rather than reason.”

# Verbal pressure or intimidation

Some phrases are used to pressure the listener into accepting what you are saying. Suppose, for example, you begin your claim with the words “Clearly, ...”, or “Obviously, ...”, or “It’s just common sense that ...”.

If the listener were to disagree, then they would be failing to see something that is clear, obvious, or a matter of common sense. Thus, they feel pressure to accept the claim.



# Verbal Intimidation

“Haven’t you even *heard* of the Laffer curve?  
Anyone with even the *slightest* understanding of  
economics knows that high taxes on the rich will  
damage the economy and reduce overall revenue”

# Any fallacies?

- Identify any fallacies in the following arguments.



**Skeptic Review** @SkepticReview89 · Jul 17



I have an awfully hard time seeing the point of being so antagonistic toward men. I felt like we conquered women's acceptance in the workplace long ago. It seems to play into victimhood, attention seeking, playing the woman card & isn't what I call dignified or dignity culture.



**Jazmine Contreras** @jazzydomenique · Jul 20

I feel bad about your internalized misogyny



**Abeba Birhane**

@Abebab

white women white womening in action

People who walk and cycle everywhere are paying for the roads and sidewalks they use, through property taxes. In fact, they are subsidising drivers as well.

-- You have got to be joking. Don't open your stupid mouth until you get your facts straight.

- A. There is no innate knowledge. The proof of this is that all the knowledge we have can be shown to arise from experience alone.
  
- B. What about our knowledge of universal physical laws? This cannot have come from experience alone.
  
- A. Well, since our experience doesn't tell us that these laws are true, we cannot claim to know them.

“I don’t know why philosophers today are still discussing God, since scientific research has made it perfectly obvious that God doesn’t exist. For example, Dawkins (1986) showed that animals and plants arose by evolution, not creation, and Krauss (2012) proved that the entire universe had no cause at all.”

- A. When we perceive something through the senses, our brains construct a model of what it thinks is out there in the world. It's this "best guess" model that we're actually conscious of, not the real object. This explains how illusions and hallucinations are possible.
  
- B. Oh come on. How can you believe that our senses always deceive us, that nothing is real, and so on? All this philosophy is driving you crazy!