

# Science before Science Study Group

Week Five

# Review Questions - Memorize

- What is a physical thing?

A physical thing is something and can become something else

- Physical things have two parts – what are they?

Matter and form.

- What is matter?

Matter is what it is potentially

- What is form?

Form is what a thing is actually

- What are the two kinds of changes?

A change of substance and a change of accident (property)

# Review Questions - Memorize

- What is a substance?

A substance is something that has its own existence. (e.g. a cat, a man, a tree, etc.)

- What is a property or accident?

A property or accident is something that exists in a substance. (e.g. color, texture, hotness or coldness, shape, impetus)

- What is the mnemonic for remembering the nine properties of physical things ?

The nine properties of physical things can be remembered using the mnemonic  
QQ RARe POET

- What are the nine properties?

The nine properties are quantity, quality, relation, action, reception, place, orientation, environment, time

# Review Questions - Memorize

- What is the principle of non-contradiction?

The principle of non-contradiction is:

Something cannot BE and NOT BE at the same time and in the same way

- What is change?

Change is the process of what can be becoming what is

- What is the most important type of change?

The most important type of change is change of place

- Why is change of place the most important type of change?

Change of place is the most important type of change because unless something can move, things cannot interact with each other

- What is the principle of causality?

The principle of causality is:

Nothing can change itself

- What is impetus?

Impetus is the power or quality of something to move itself.

- What is force?

Force is the quality or power of something to change the impetus of another thing.

# Review Questions

- What does plana mean in Latin?

Plana is the Latin word for field.

- Is plana a property or substance?

Plana is a substance.

- Can you identify a property of the plana?

Light is a property of the plana.

Another property of the plana is the gravitational field.

- What are the two parts of the scientific method?

The two parts are (1) it looks at the world through the property of quantity and (2) it make use of symbols and rules to make laws that can make predictions.

- Why is quantity the first property of physical things?

Quantity is the first property because we can think of quantity without all the other properties.

# Review Questions

- Empiriometric is another name for what?  
Empiriometric is another name for the scientific method
- What does 'empirio' mean?  
'Empirio' means the world of the senses
- What does 'metric' mean?  
'Metric' means 'as measured'

# Beyond Physics: The Unchangeable Changer

- Remember
  - We started learning about physical things
    - Things we know through our five senses
    - Physical things change – become something that they did not used to be
    - Nothing changes itself
    - Doesn't a robot move itself?
      - A collection of different substances
      - One moves another – starts with a motor – motor gives impetus to one part, that part gives impetus to another part, etc.
    - Doesn't a person move himself?
      - Doesn't this violate the principle of causality?
      - Starts with the will to move and the brain changes one part (i.e. gives its impetus)
      - Gives itself impetus and the impetus changes his place
    - What gave it the new place – impetus!

# The Kitten

- Let's talk about substantial change – the coming to be of a kitten
  - Comes into existence from pre-existing material
  - Needs something to change it
    - The kitten's mother and father
  - The kitten mother and the kitten's father also came into existence from some cause
    - Their fathers and mothers
  - Can go on endlessly by never come to the first cause!



# Change must come from somewhere

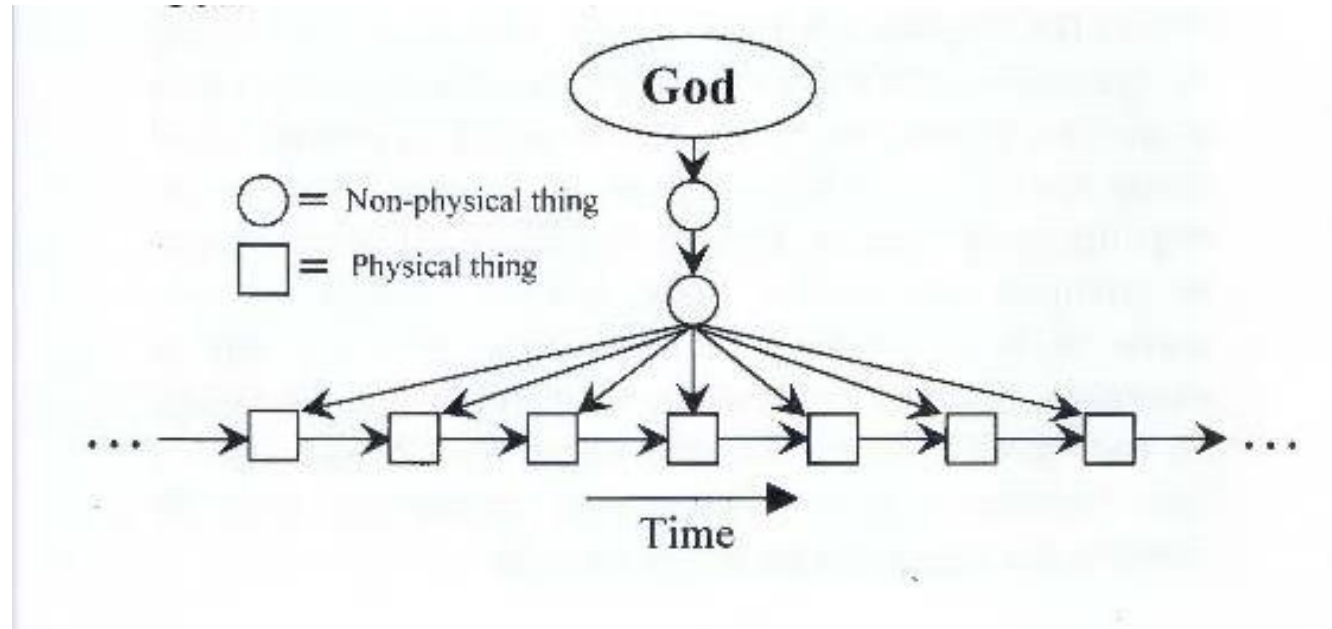
- The new thing must come from somewhere
- Something completely different than the physical thing
- It must come from something that has no potential, no ability to be other than it is
- If it did have such a potential, it would be able to change and therefore need something to change it and we would be back in our never ending trap
- This is exactly opposite of what a physical thing is
  - Physical things can change
- **This unchangeable thing is not-physical !**

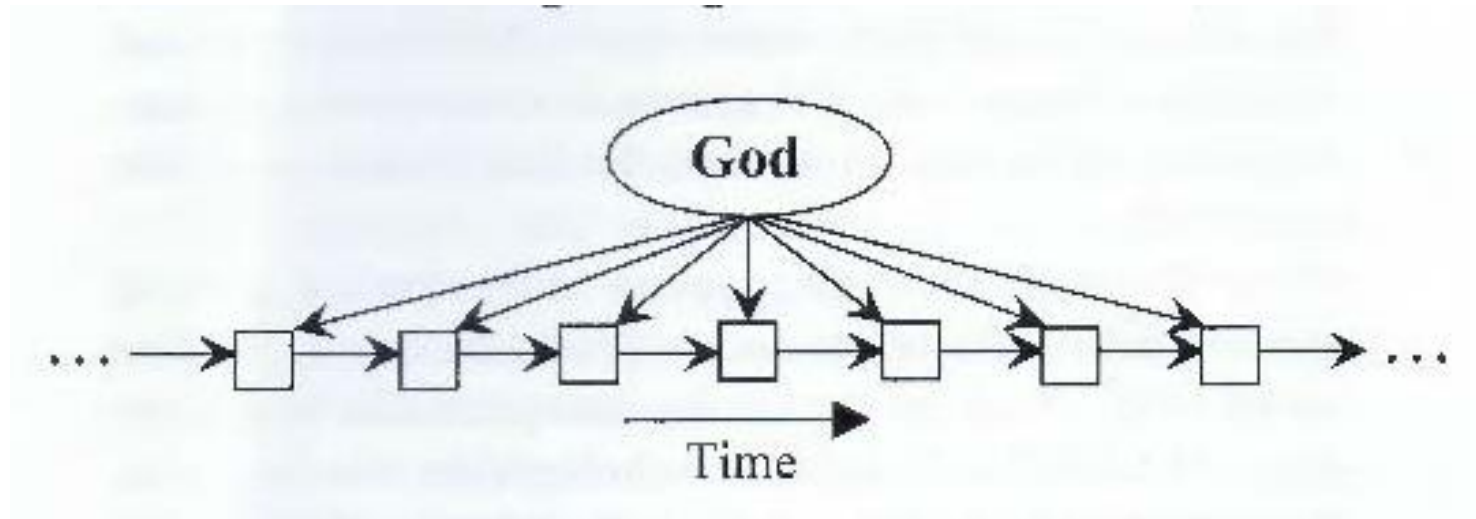
# We leave physics.....

- The last bit of physics is that there is a non-physical changer
- It causes all the change that we see
- We recognize as God !
- Let's do some METAPHYSICS work (beyond physics)
  - Analogous changes
    - Like physical change in one way but different in another
    - Growth in knowledge – a non-physical change
    - Needs something to change it
    - Same as before
    - Come to something that has no potential in any way
    - God of Genesis = Moses = I am who am
  - Can there be two gods?

# What physics tells us about God

- What makes impetus do what it does?

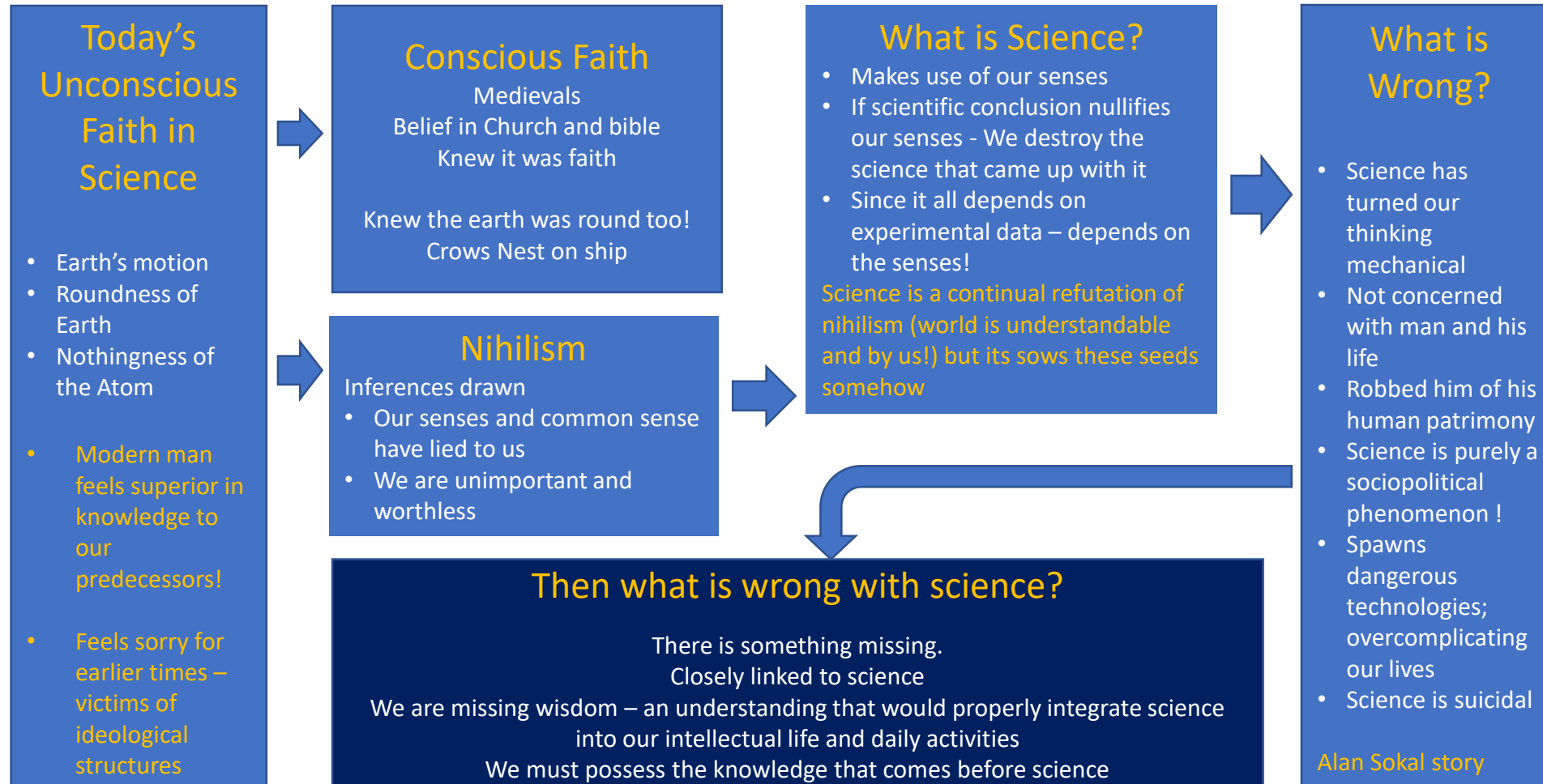




# Science Before Science

- We have unconscious faith
  - What we believe and what we know – are we aware?
- We will look at
  - The earth being in orbit around the sun
  - The roundness of the earth
  - Nothingness of the atom
- Nihilistic element in culture

# Chapter 1: Science without Wisdom



# Science without Wisdom

- What is missing?
  - The Science before Science
- What is the science before science?
  - Philosophy – a love of wisdom
- What is the meaning from its Greek?
  - Philo – love of
  - Sophia – wisdom

*All men by nature desire to know* — Aristotle's *Metaphysica*

# Sense of “before”

- What comes “before” science?
  - Not talking in a historical way
  - Knowledge of a triangle
    - Knowledge of what a side is precedes the concept of triangle
    - Knowledge of side comes “before” knowledge of a triangle
    - Side is “before” the triangle because side is required in the definition



# Chapter 2: A False Sense of Certitude

