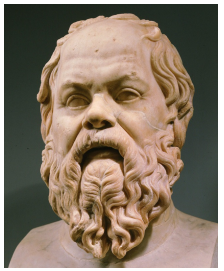
01. Pre-Socratic Cosmology and Plato

1. Basic Issues



Socrates
Died: 399 B.C.

(a) Metaphysical

(i) *What do things consist of?*

- One substance (*monism*)
- Many substances (*pluralism*)

> *Problem of the One and the Many*
> - How is diversity derived from unity?
> - How is unity derived from diversity?

(ii) *What is the nature of change?*

(b) Epistemological

(i) *What is the nature of knowledge?*

(ii) *How is knowledge obtained?*

Three questions to keep in mind:

1. *What counts as a "scientific" explanation of a phenomenon?*

- An account of the *causes* of the phenomenon?
- An account that places the phenomenon within a *larger explanatory framework*?
- An account of the phenomenon that indicates how it follows from basic *laws of nature*?

2. *What counts as "scientific" knowledge?*

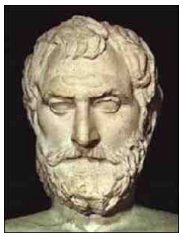
- Knowledge of causes, natural laws, and/or general physical principles?
- Knowledge based on observation and inductive inference?
- Knowledge that makes no appeal to supernatural causes?

3. *What distinguishes a natural explanation from a supernatural explanation?*

- testability?
- reliability?
- accuracy?
- repeatability?

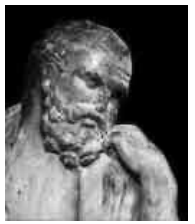
2. Pre-Socratics (~6th - 5th cent. B.C.)

(a) Milesians and Monism



Thales ~585 B.C.

- The Earth rests on water.
- Water is the *archê* (source) of all things.
- All things are full of gods; the magnet has a soul.



Anaximander ~550 B.C.

- Monism based on "apeiron".
- Apeiron = the infinite/indeterminate/unlimited.
- *Lacking* in qualities (boundedness, determinateness, limits, *etc*).

All phenomena are composed of the elements earth, air, fire, water.
- *But: The elements are opposed to each other.*
- *Thus: There must be a neutral substratum devoid of qualities from which everything is composed.*

Anaximenes ~545 B.C.

- Monism based on air.
- Unlike apeiron, air is observable and air can account for change (condensation and rarification).

General Characteristics of Milesians

1. Unity behind diversity: Order (*kosmos*) behind chaos.
2. De-emphasis on deification.
3. Critical inquiry into nature.
4. Development of materialism (basic material common to all things).

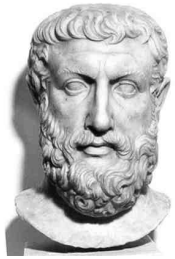
(b) The Problem of Change

- How can change be explained in terms of fundamental material constituents?
  Assumption: If a constituent is fundamental, then it cannot change.

Heraclitus ~500 B.C.

- Rejects assumption: Monism based on fire.
- Change is fundamental: everything is in flux.
- There are no persisting objects.

Parminedes ~480 B.C.

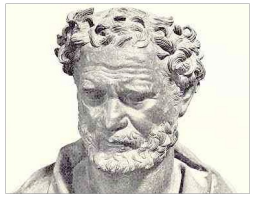


- Rejects reality of change.

> (i) Change requires the emergence of something out of nothing.
> (ii) Out of nothing comes nothing. (No being from non-being).
> (iii) Hence there is no change. (That which is, must be eternal).

- Distinguishes between "way of seeming" (based on senses), and "way of truth" (based on reason).

(c) Atomists and Pluralists



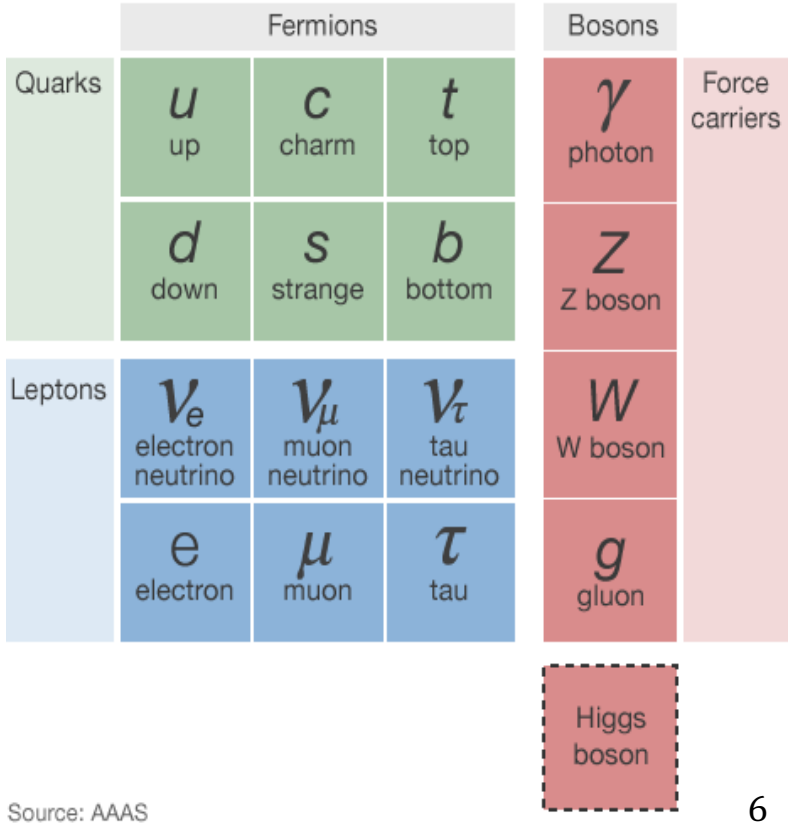
Leucippus and Democritus ~440, ~410 B.C.

- Atomism: infinite atoms moving *randomly* in an infinite void.
- *Chance* collisions produce all things.
- Materialism with a vengance!

  - *No mind, no divinity, no design.*
  - *No protection from chaos.*
  - *No freedom (necessity rules).*
  - *Life itself is the motion of inert atoms.*

Empedocles ~450 B.C.

- *Pluralism*: the basic material constituents are earth, air, fire, water.
- *Immaterial principles*: "love" and "strife" explain motion and change.



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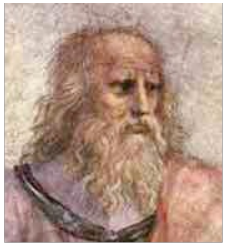
3. Plato (427 - ~348 B.C.)



The Theory of Forms (*Phaedo, Republic, Timaeus*)

(a) **Metaphysical Aspect.** Two levels to reality:

World of Forms	*World of sensible objects*
- World of Being	- World of Becoming
- unchangeable	- changeable
- eternal	- temporal
- incorporeal	- corporeal
- intangible	- sensible
- true reality	- dependent on World of Forms

- Sensible objects are *imperfect copies* of perfect Forms.
- Sensible objects "participate" in Forms.

Example: What is it that all actual triangles have in common?

- Plato: They all participate in the ideal Form of Triangle.
- *Claim*: The ideal Form of Triangle must *exist independently* of any actual triangle; otherwise, how could we identify any actual triangle as a triangle?

Implications:

(i) Problem of the One and the Many.

- *Unity is assigned to the World of Forms.*
- *Diversity is assigned to the World of sensible objects.*

(ii) Problem of Change.

- *Both change and stability are real.*
- *Stability is assigned to the World of Forms.*
- *Change is assigned to the World of sensible objects.*

(b) Epistemological Aspect

(i) True knowledge is knowledge of the Forms (i.e., knowledge of general principles, universal properties, etc.).

(ii) Knowledge is obtained through reason ("philosophical reflection").

- *Observation is downplayed (but not eliminated).*

Problems with the Theory of Forms

(i) What things are there Forms for?

- *Moral and aesthetic ideals (justice, beauty, piety, the "good", etc.).*
- *Geometric concepts (triangle, line, sphere, square, etc.).*
- *Natural stuffs (water, fire, air, etc.).*
- *"Undignified" qualities? (hair, mud, dirt, potatoes?)*

Plato's potatoes

(ii) The nature of "participation".

- *Is the whole Form in each participant?*
- *Is only a part of the Form in each participant?*

- *If the whole Form is in each participant, then each Form will be "separate from itself" if it's in many things.*
- *If only a part of the Form is in each participant, then the Form is divisible and no longer a unity.*