

## 02. Plato (427-~348 B.C.)

1. Theory of Forms  
2. Cosmology



### 1. The Theory of Forms (*Phaedo, Republic, Timaeus*)

#### 1. *Metaphysical Aspects*. Two levels to reality:

##### World of Forms

- World of Being
- unchangeable
- eternal
- incorporeal
- intangible
- true reality

##### World of sensible objects

- World of Becoming
- changeable
- temporal
- corporeal
- sensible
- 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?

## Motivations:

(a) Addresses the "Problem of the One and the Many":

- How is diversity derived from unity?
- How is unity derived from diversity?
- Plato's response:
  - Diversity is assigned to the World of sensible objects.
  - Unity is assigned to the World of Forms.

(b) Addresses the "Problem of Change":

- How can change in the midst of stability be explained?
- How can stability in the midst of change be explained?
- Plato's response:
  - Both change and stability are real.
  - Change is an aspect of the World of sensible objects.
  - Stability is an aspect of the World of Forms.

## 2. Epistemological Aspects

- (a) True knowledge is knowledge of the Forms (*i.e.*, knowledge of general principles, universal properties, *etc.*).
- (b) Knowledge is obtained through reason ("philosophical reflection").
  - Observation is downplayed (but not eliminated).

*Rationalism* = knowledge is obtained through reason alone.

*Empiricism* = knowledge is obtained through experience.

# Problems with the Theory of Forms

## 1. *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*



## 2. *The nature of "participation".*

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

### 3. *The Third Person Argument:*

#### Suppose:

- (a) There's a Form for every property common to a collection of things.
  - (b) Forms don't participate in themselves.
  - (c) Forms have the quality they define.
- Then: For each quality, there must be an infinite hierarchy of Forms!

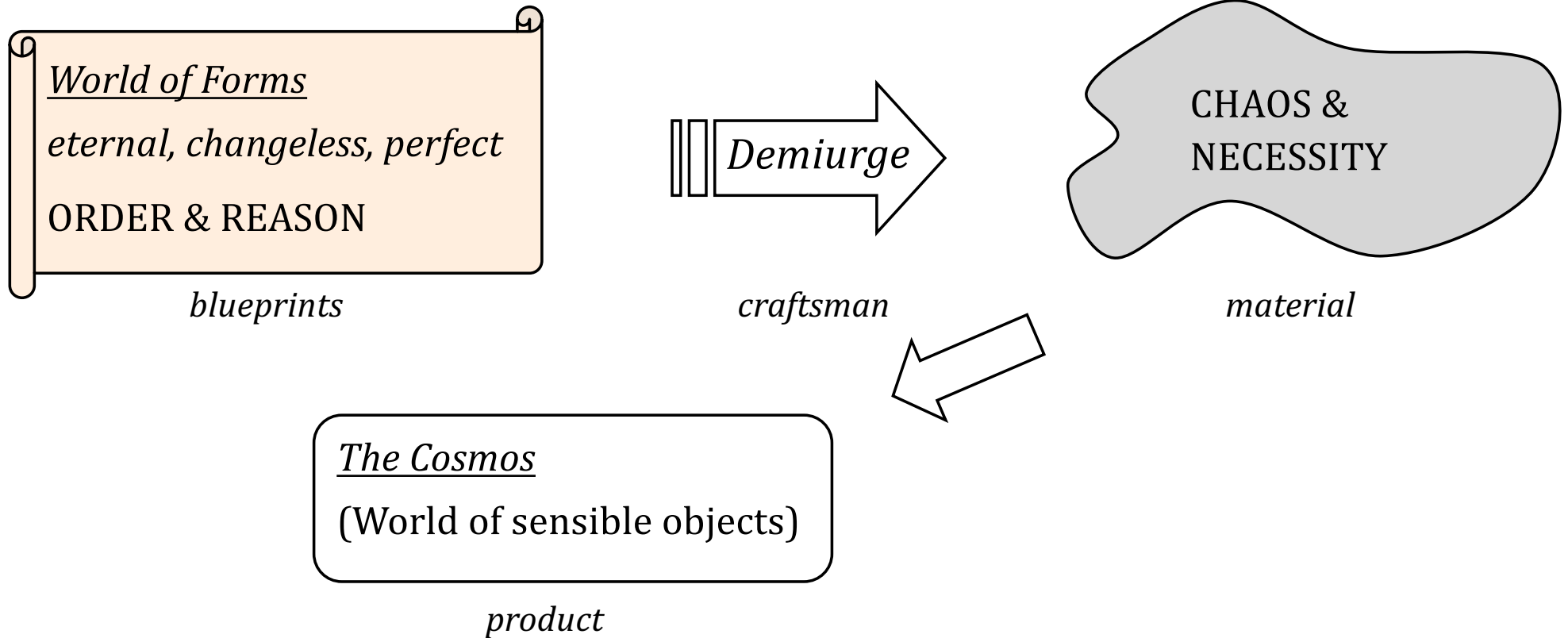
Ex: Why is the Form of Largeness large?

- Because of another Form Largeness<sub>2</sub> in which it participates.
- Why is Largeness<sub>2</sub> large?
- Because of another Form Largeness<sub>3</sub> in which it participates.
- *Etc., ...*

- Consequence: All unity associated with the Forms is lost.

## 2. Cosmology (*Timaeus*)

### Outline:



- Reason "persuades" Necessity.
- Plato's response to *Greek atomism* (Democritus, Leucippus):
  - An Infinite number of atoms moving randomly in an infinite void.
  - Pure chaos and necessity (no order).

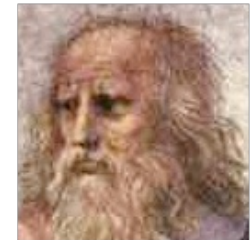
### Three basic constituents:

- |                      |   |          |
|----------------------|---|----------|
| (1) sensible objects | "that which comes to be"  | "child"  |
| (2) receptacle       | "that in which it comes to be"  | "mother" |
| (3) Forms            | "that after which the thing coming to be is modeled, and which is its source" | "father" |

### The receptacle:

- Substratum underlying change.
- Collection of all locations (places) of sensible objects.
- No properties:

"A characterless sort of thing, one that receives all things and shares, in a most perplexing way, in what is intelligible."



### Gold analogy:

- gold = malleable (plastic) stuff.
- can be shaped into different forms.
- But: gold, in and of itself, has various properties.

Recall: Three questions that can be asked about space:

(a) **Metaphysical**: *What kind of thing is space?*

- Space is *physical*: it's a part of the physical world and presupposed by physics.
- Space is *immaterial*: it's separate from matter, which it contains (if it were material, what would contain it?).
- But: What sort of thing is *both* physical *and* immaterial?

Plato's View:

- Space (the receptacle) is the substrate in which the Forms are impressed.
- So: It is *not immaterial*: it is *not* separate from material things.
- But: It possesses no properties ("pure", unadulterated matter?).

- Suggests: Take all physical objects out of the world and *nothing* would be left.





**(b) Epistemological:** *How is knowledge of space possible?*

- Based on pure reason alone?



- Based on experience?



*Plato's View:*

- Space (the receptacle) is "between" the Forms (pure reason) and sensible objects (experience).
- Knowledge of space is possible through "bastard" reasoning...

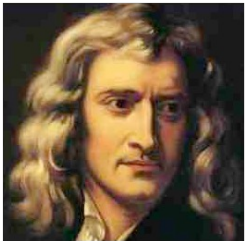
(c) **Physical:** *What role does space play in theories of motion?*

- Does space act on physical objects?
- Do objects act on space?



*Yes and yes!*

*Space is not separate from physical objects.*



*Yes and no!*

*According to one interpretation of Newton, absolute space constrains objects to move along straight lines: When an object deviates from straight-line (inertial) motion, the inertial forces it experiences are due to absolute space "pushing" back on it.*



*Yes and yes!*

*According to one interpretation of Einstein, spacetime constrains objects to move inertially, and objects determine the geometry of spacetime.*