

R. E. Houser, TAC Lecture, **Science: From Plato to Aristotle to Us**

Steps in the argument:

1. *Plato's Divided Line*
2. *Aristotle*
3. *Many sciences*
4. *The three parts of each science*
5. *Subject*
6. *Scientific Reasoning: Using principles*
7. *Principles 1: Three kinds of principles*
8. *Principles 2: Necessary principles can lead to necessary conclusions*
9. *Principles 3: How do we come to know scientific principles?*

Plato: *Republic*, Divided Line

Aristotle, *Post A*, 2.19; *Met* 1.1

[subjective] [kind of knowledge]	[objective] [objects]	[methods of knowing]	[subjective] [kind of of knowing]	[objective] [objects]	[methods]	[example]
Vision of the	agathon/ the good					
A. epistêmê/science	noêta/intelligibles ousiai = beings					
DL1. noêsis/ intellectual insight	eidê/separate forms noêta/intelligibles	epistêmê tou dialegesthai/ discursive science of dialectic from hypothesis up & down [diairesis/division] [synagoge/collection] to non-discursive intellectual insight/noesis	A1. science/ episteme	whole things through intrinsic principles/ forms	discursive deductive demonstration	[<i>PostA</i> 1.1-2.18]
DL2. dianoia/ deduction	noeta/intelligibles [mathematika/ mathematicals] square itself, diameter itself	discursive deduction E.g. technai kaloumenai/ so-called arts “in geometry and the like” [and other eidê] from hypothesis down	A2. intell. insight/ nous	perfected/ secure universal	1. dialectic to 2. full induction/ generalization 3. insight from intrinsic form in whole things	[<i>Post A</i> , 2.19; <i>Met</i> 1.1] Phalanx

[subjective]	[objective] [objects]	[methods]	[subjective]	[objective] [objects]	[methods]	[example]
	Helios = sun					
B. doxa/opinion	horata/visibles doxasta/objects of opinion; genesis/generables					
DL3. pistis/trust/ belief	physical things All zoa/living things all phuteuta/plants all skenasta/man made	generalization epagoge/ induction empeiria/ experience	A3. experience/ empeiria	individuals generalized. first & insecure universal	induction	forming the phalanx
DL4. eikasia/ image thinking	eikones/individual things conceived as images, similar	association/ comparison of individual sensed things	A. 4 memory & sensation	individual physical thing	comparison of individuals	individual soldier