

# Lecture 5

## Aristotle on Skepticism and Necessity

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*Now some think that because one must understand the primitives there is no understanding at all. [72b5]*

### The argument (my statement)

- P1. Demonstration must start from premises that aren't demonstrated (the primitives or principles); otherwise demonstration couldn't get started.
- P2. To have understanding by demonstration we must understand the premises.
- P3. Demonstration is the only way of having understanding.
- C. Therefore, understanding is impossible.

P = premise, C = conclusion

## The premises (again)

- P1. Demonstration must start from premises that aren't demonstrated; otherwise demonstration couldn't get started.
- P2. To have understanding by demonstration we must understand the premises.
- P3. Demonstration is the only way of having understanding.

## Aristotle's response

- P1 is correct.
- P2 is correct.
- P3 is false: *We say that neither is all understanding demonstrative, but in the case of the immediates it is non-demonstrable.* [172b19]

So principles are understood in some way other than by demonstration. In the next lecture we'll see how.

## Conclusions of demonstrations are necessary

### **My statement of the argument:**

- 1 Demonstration is a way of having understanding.
- 2 Understanding something requires knowing the explanation of the thing and that it cannot be otherwise.
- 3 Therefore, conclusions of demonstrations cannot be otherwise, i.e., they are necessary.

### **Aristotle's statement:**

*Since it is impossible for that of which there is understanding simpliciter to be otherwise, what is understandable in virtue of demonstrative understanding will be necessary. [73a21]*

## How necessity arises

Some properties of a thing belong to it in virtue of what it is; others don't. *Examples:*

- *Being bounded by 3 lines* belongs to a triangle in virtue of what it is.
- *Having angles equal to 2 right angles* belongs to a triangle in virtue of what it is.
- *Being seated* doesn't belong to you in virtue of what you are (even if you are seated).
- *Being human* belongs to you in virtue of what you are (Aristotle would say).

*Rule:* If *A* belongs to *B* in virtue of what *B* is then it is necessary that *B* is *A*.

## Accidentals (*Posterior Analytics* book I ch. 6)

Non-necessary properties of a thing are called *accidental properties* or *accidentals*.

### The problem

- Most particular properties are accidentals. E.g., if I release a piece of chalk and it falls, that it fell is an accidental.
- We ask for explanations of accidentals, e.g., why the chalk fell.
- Aristotle's theory of explanation is that it is demonstration.
- But there can be no demonstration of accidentals, since they aren't necessary!

*Of accidentals which do not belong to things in themselves . . . there is no demonstrative understanding. For one cannot prove the conclusion from necessity; for it is possible for what is accidental not to belong—for that is the sort of accidental I am talking about. Yet one might perhaps puzzle about what aim we should have in asking these questions about them, if it is not necessary for the conclusion to be the case. [75a18]*

## Aristotle's solution to the problem

- Aristotle says that in “explanations” of accidentals, what we do is give a deduction (not a demonstration).
- Example: The “explanation” of why the chalk fell would be:

Chalk always falls when released.

This chalk was released at 1:20 PM today.

So, this chalk fell at 1:20 PM today.

This isn't a demonstration, but it is a deduction; the conclusion follows necessarily from the premises.

*We must ask not as though the conclusion were necessary because of what was asked, but because it is necessary for anyone who says them to say it, and to say it truly if they truly hold. [75a18]*

## The demonstrative nature of science

- A *demonstrative science* is one in which every proposition (other than principles) is demonstrated.
- The statement that a piece of chalk fell at a particular time can't be demonstrated and isn't a principle (since it isn't necessary). So it can't be in a demonstrative science.
- Does it follow that physics isn't a demonstrative science? No.
  - Physics is concerned with *general* facts, such as that chalk always falls when released. *Particular* facts, such as that a particular piece of chalk fell at a particular time, aren't part of physics.
  - Aristotle would say the general facts are necessary, and either take them as principles or give demonstrations of them.
  - *An Aristotelian demonstration*: Chalk is made of earth, and the natural motion of earth is to go to the center, so chalk goes to the center when released.



- 1 How did skeptics use the concept of demonstration to argue that understanding is impossible? What does Aristotle think is right and wrong in this argument?
- 2 Can non-necessary truths be demonstrated, according to Aristotle? What is Aristotle's argument for his view about this?
- 3 Give an example of something that Aristotle would regard as necessary and something he would regard as not necessary.
- 4 On Aristotle's view, can we demonstrate that a particular person got ill? Why, or why not? If the answer is "no," does it follow that medicine is not a demonstrative science? Explain.



Jonathan Barnes, editor.

*The Complete Works of Aristotle.*

Princeton University Press, 1984.

[Online in Past Masters.](#)

Numbers in brackets are standard page numbers given in many editions of Aristotle.