

Aristotle & Logic: Syllogism & Inductive Reasoning

Syllogistic logic and inductive logic are key forms of persuasion in the *Ethics*. According to Aristotle, scientific knowledge "starts from what is already known...[and] proceeds sometimes through induction and sometimes by syllogism" (VI.3 p. 140). The difference between syllogism and induction is as follows: "induction is the starting-point which knowledge even of the universal presupposes, while syllogism proceeds *from* the universals" (VI.3 p. 140).

A. Syllogisms (a type of Deductive reasoning)

Syllogisms consist of three parts:

1. general statement ("universal")
2. particular example
3. conclusion

An example from Reeve's *Practices of Reason* p. 12

1. All plants in which sap solidifies at the joint between leaf and stem in autumn are deciduous.
2. All oak trees have sap that solidifies at the joint between leaf and stem in autumn
3. Therefore, all oak trees are deciduous

Another example from a Humanities 110 lecture (12/1/95):

1. One should not seek delights that violate the sacred guest/host relationship
2. (a) I am now a guest in Helen's house; (b) fulfilling our reciprocal desire would be delightful; (c) but she is the wife of my host
3. Therefore, making love with Helen would be a violation of the guest/host relationship, and I should not do it.

Sample hypothetical example from a student paper

1. To be rational means one must act consistently, take multiple factors into account, and choose what is "best."
2. Antigone acts consistently, takes multiple factors into account, and chooses what is "best."
3. Therefore, Antigone is rational.

An example you have found in the *Ethics*:

- 1.
- 2.
- 3.

B. Inductive Reasoning

According to Daniel Sullivan, "inductive reasoning involves a transition from the sensible singular to the universal" (*Fundamentals of Logic* 114). For example:

Antecedent: This fire warms,
And this fire warms,
And this fire warms, etc.

Consequent: Therefore every fire warms. (*Fund. of Logic* 114)

Sample inductive reasoning from a hypothetical student paper

Antecedent: In *Antigone*, Sophocles dumps on confidence
In *The History*, Thucydides dumps on confidence
In *The Bacchae*, Euripides dumps on confidence

Consequent: All Ancient Greeks thought confidence was bad.