



Essentials of Formal Logic

with Joelle Hodge

Lesson 5: Chapter 2.2

Outline:

Chapter 2, Lesson 2.2

- Part II: Aristotle is lost and then found.
 - The growth and divergence of modern logic.
- Points to Remember:
 - During the **Renaissance and Reformation**, people began to question the prominent status of Aristotelian logic.
 - People like Francis Bacon, John Stuart Mill, and George Boole attempted to address some of the weaknesses and limitations of Aristotelian logic.
- “The logic of words should yield to the logic of realities.” Louis Brandeis
- During the Renaissance and Reformation, which is from the fourteenth to the seventeenth centuries, people began to question the prominent status of Aristotelian logic in the curriculum.
 - There are new avenues of thought and new research tools.
 - People became increasingly interested in experience and information acquired through the senses as a basis for knowledge.
 - This is where the notion of relative truth is born.
 - A priori knowledge: Suddenly, Aristotle’s process of arriving at new truths through deduction from *a priori* beliefs appeared to be, at least occasionally, unreliable.
 - ***A priori***: an idea or truth accepted as already true.
 - **Axioms**: Statements or propositions that are presented as true statements and from which an argument can be built. Also referred to as “postulates.”
 - We tend to use *a priori* truths as axioms.
- Bacon insisted that more attention needed to be paid to inductive logic and less to the deductive logic stressed by Aristotle.
 - Inductive logic is much more experiential. You are reasoning from a particular instance and trying to draw other conclusions that might impact a broader sense of things.
 - Deductive logic reasons from the universal to particulars.
 - Inductive logic starts with examples of things and try to reason from there.
 - Logic is a two-sided coin.



- Bacon believed that rather than reasoning deductively from *a priori* assumptions, we should collect observations and examples from the world and form theories based on these observations.
- The scientific method was largely responsible for the advances in the empirical sciences achieved during the Scientific Revolution.
- There was abuse and limitations of Aristotle's logic.
 - Aristotle often accepted truths that appeared obvious from common sense that, in actuality, were false.
- These new topics of study in logic were certainly helpful. However, logic increasingly became an isolated, abstract, and specialized "science," rather than an "art" to be studied and used as a tool by all educated people.