



Essentials of Formal Logic with Joelle Hodge

Lesson 18: Chapter 5.3

Outline:

Chapter 5, Lesson 3

- Contradictions
- Relationships of Opposition
- Points to Remember
 - Contradiction is the relationship between A and O propositions and E and I propositions.
 - Contradictory propositions cannot both be true at the same time.
 - Contradictory propositions cannot both be false at the same time.
 - If one contradictory proposition is true, the other must be false.
 - If one contradictory proposition is false, the other must be true.
- “Men who are lovers of wisdom must be inquiries into many things indeed.”
Heraclitus
- **Contradiction:** The relationship of contradiction examines the relationship between *A* and *O* propositions and *E* and *I* propositions, which have opposing quality and quantity.
 - $A \rightarrow T: O \rightarrow F$
 - $O \rightarrow T: A \rightarrow F$
 - $A \rightarrow F: O \rightarrow T$
 - $O \rightarrow F: A \rightarrow T$
 - $E \rightarrow T: I \rightarrow F$
 - $I \rightarrow T: E \rightarrow F$
 - $E \rightarrow F: I \rightarrow T$
 - $I \rightarrow F: E \rightarrow T$
 - E: No fish are able to live out of water.
 - I: Some fish are able to live out of water.
 - I: Some diamonds are man-made.
 - E: No diamonds are man-made.

