# Supported Statements and Relationships Between Statements

Lessons 8 and 9

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## Introduction:

- In last week's lesson Bryan covered Statements and self-supporting statements. We will briefly review these before discussing supported statements and then the relationships between statements.

- **Statements**
  - Remember that a Statement is "a particular kind of sentence that brings a message that can be said to be either true or False."[1]
    - "In evaluating statements, we should be looking for their truth value…. If a sentence has no truth value, then it is not a statement at all."[2]
    - Remember that neither questions nor commands are statements.

- **Self- Supporting statements**
  - Self-supporting Statements are statements that have immediately apparent truth values. It "is a statement whose truth value can be determined from the statement itself."[3]
  - There were three categories of self-supporting statements
    - Self-reports – statements about personal beliefs, desires, or feelings
    - Statements that are true or false by logical structure. – Tautologies or self-contradictions.
    - Statements that are true or false by definition – five-sided triangle, married bachelor

[1] Introductory Logic pg 57
[2] Ibid pg57
[3] Ibid pg 61

- Now let's turn to the subject of this lesson.

**Supported Statements: Lesson 8 Introductory Logic**

- The other kind of statement is called a supported Statement. A supported statement does not stand or fall by itself. It requires evidence from outside investigation before it can be declared true or false.

Solomon had a treaty with Hiram.

It is raining outside.

The leaning tower will fall down.

- **Supported Statement**: A supported Statement is a statement whose truth value depends on evidence or information from outside itself. Just like with self-supported statements that had three categories; we may need to seek information from three categories in seeking to support a statement.

    - **Authority** – How do we know if Solomon had a treaty with Hiram? We may need to look to some trustworthy, authoritative source, such as the Scriptures.[4]

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[4] This is different than the fallacy of appeal to authority. Dr. Oz before the Senate on weight loss solutions.

- **Experience or Observation** – Consider the statement "It's raining outside." Is there a way to find this out using our senses?

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  _____

  _____

- **Deduction** – In this way we reason to some conclusion based on other statements.

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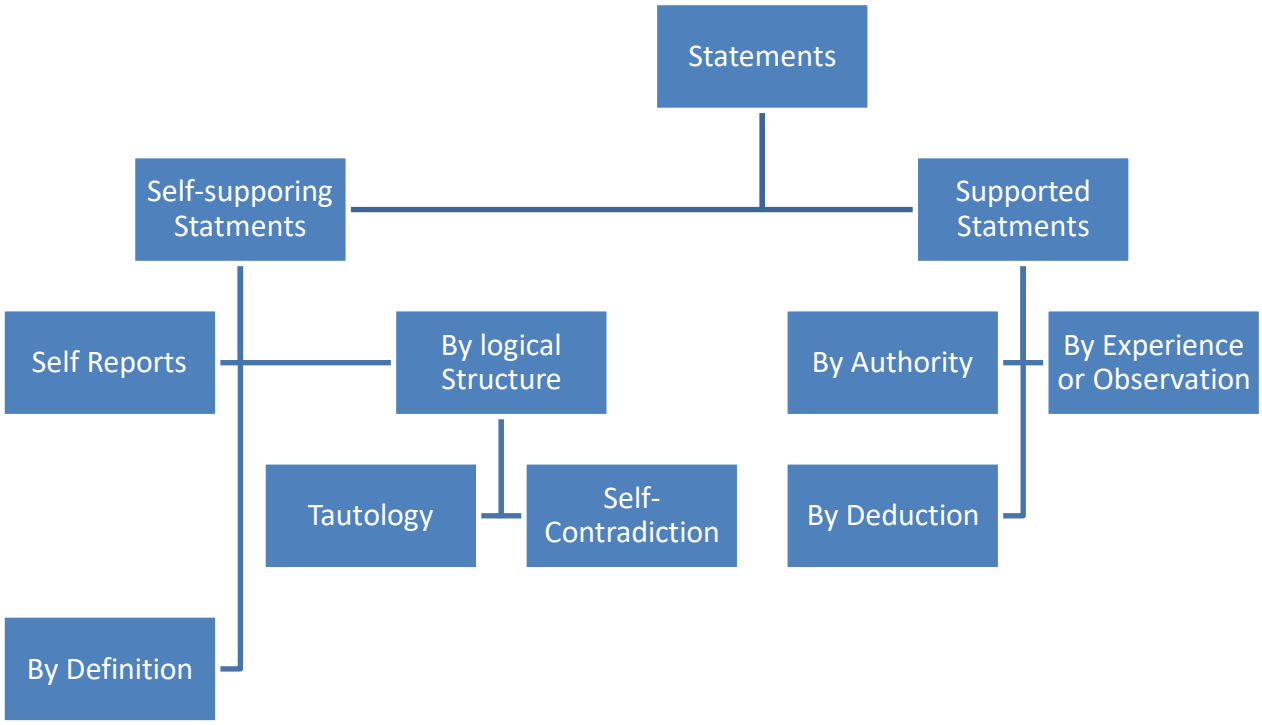
**Summary:**

Supported statements require one to collect information in order to determine their value. Such information can be collected in one of several ways, including looking to authority, experience, or deductive reasoning.




**Relationship Between Statements: Lesson 9 Introductory Logic**

- We now need to examine some relationships between statements. Self-supporting and supported statements both can be related to other statements in many different ways. There are four major relationships with which we are concerned.

    - **Consistency –** When two statements can be true at the same time, we say they are consistent.

These statements are consistent because there is no conflict between them. Consequently, they can both be true at the same time. If there is a conflict between the statements, then they are inconsistent.

- **Implication –** Two statements are related by implication when the truth of the first requires or necessitates the truth of the second.

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- **Logical Equivalence –** If statements are logically equivalent, then the first must imply the second, and the second must imply the first. If they are logically equivalent, then both must be true, or they must both be false.

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- **Independence –** If the truth or falsity of one statement has nothing at all to do with the truth or falsity of another statement, we say they are independent. There are two indications we may use to help determine if statements are independent: First, neither statement can imply the other and, second, the statements must be consistent.

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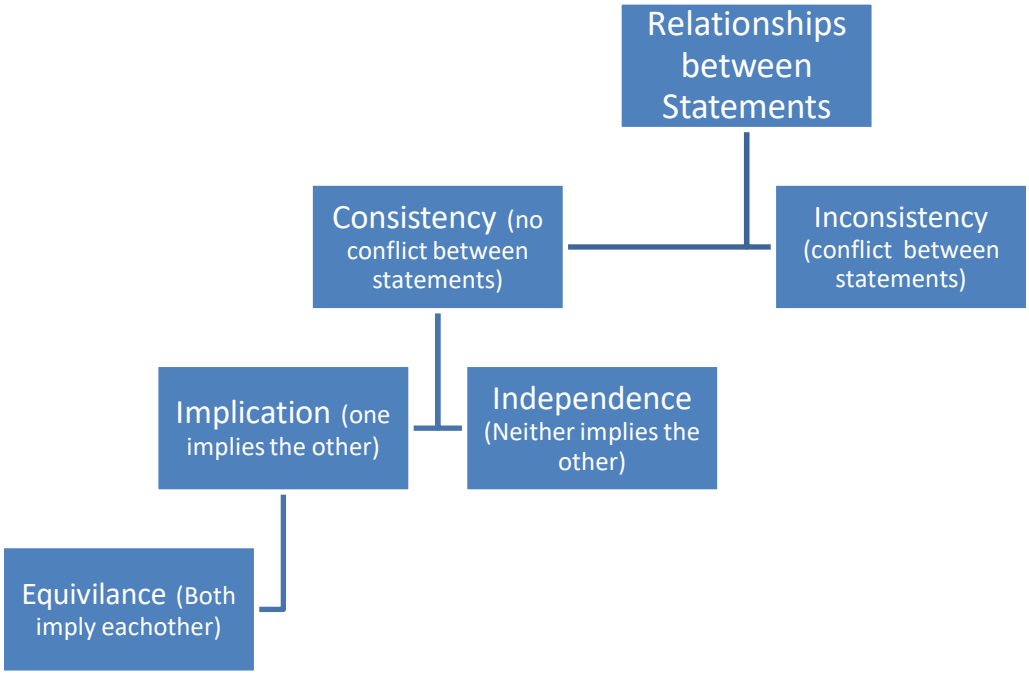
Relationships between Statements
Consistency (no conflict between statements)
Inconsistency (conflict between statements)
Implication (one implies the other)
Independence (Neither implies the other)
Equivilance (Both imply eachother)

UNIT TWO: STATEMENTS

## Exercise 8 (15 points)

Examine each of the following statements. In the blank at the right, enter the type of statement you believe it to be. Your options are *self-report, tautology, self-contradiction, true by definition, false by definition,* and *supported.* If the answer is supported, give the method used to support it.

1. The snow is deep. _____
2. I think Socrates was a wise man. _____
3. Paul was an apostle, and he wasn't. _____
4. Jericho fell to the invading Israelites. _____
5. I believe Paris really loved Helen. _____
6. A square has five sides. _____
7. The book of Genesis has fifty chapters. _____
8. Jesus is God, or He is not God. _____
9. Jesus is God, and He is man. _____
10. I think the snow is deeper than last year. _____
11. Jeremiah was a reluctant prophet. _____
12. My mother is a woman. _____
13. It either works, or it doesn't. _____
14. Dante was a poet. _____
15. The New Testament was written in Greek. _____

## Exercise 9 (20 points)

With the following five sets of statements, circle Y if the statements are consistent, and circle N if they are not consistent.

1. The sun is hot.
   The moon is white. Y N
2. Paul was the author of Romans.
   Peter was the author of Romans. Y N
3. Sally told a lie once.
   Sally usually tells the truth. Y N
4. All fish have fins.
   Some fish do not have fins. Y N
5. God knows all things.
   God does not know all things. Y N

For the next five sets of statements, circle Y if the first sentence implies the second, and circle N if it does not.

6. God created everything.
   God created porcupines. Y N
7. All watermelons are green.
   Some watermelons are green. Y N
8. Honey is sweet.
   I hate honey. Y N
9. The Bible is the Word of God.
   Ecclesiastes is the Word of God. Y N
10. Some trees are tall.
    All trees are tall. Y N

*Continued on next page.*

Now seek to determine whether the statements in these sets are logically equivalent. If they are equivalent, circle Y; if not, circle N.

11. No Baptists are Americans.
    No Americans are Baptists. Y N

12. All dogs are four-legged animals.
    All four-legged animals are dogs. Y N

13. No apples are oranges.
    No oranges are bananas. Y N

14. Some apostles were Scripture-writers.
    Some Scripture-writers were apostles. Y N

15. No windmills are giants.
    No giants are windmills. Y N

Lastly, examine these sets to determine independency. Circle Y if the statements are independent; circle N if they are not independent.

16. The typewriter is broken.
    Obadiah is my favorite book. Y N

17. Logic is hard.
    Spanish is hard. Y N

18. God created all the stars.
    God created this star. Y N

19. Some triangles are yellow.
    Some tricycles are red. Y N

20. Alan wrote this poem.
    Alan has written no poems. Y N

UNIT TWO: STATEMENTS

**Challenge:** Consider these two statements: *Some soldiers are painters. Some soldiers are not painters.* Answer the following questions, explaining your answers.

Are these statements consistent?

Does the first imply the second?

Are they equivalent?

Are they independent?