Three Acts of the Mind

Mental Act: 
- Simple Apprehension 
- Judgment 
- Deductive Inference

Verbal Expression: 
- Term 
- Proposition 
- Syllogism

Obversion, Conversion & Contraposition

- The Three relations of equivalence
- Obversion
- Double Negation
- Conversion
- Contraposition
- Review of Chapters 4-9
Equivalence: Three ways to convert logical statements into their logical equivalents

- Obversion
- Conversion
- Contraposition

Obversion

Change the quality of the statement
Negate the predicate
How to change the quality of a statement

- If the statement is affirmative, simply make it negative
- If the statement is negative, simply make it affirmative
- Be careful not to change the quantity of the statement: \( A \leftrightarrow E, \ I \leftrightarrow O \)

Examples of how to change the quality of a statement:

- All S is P \( \rightarrow \) No S is P
- No S is P \( \rightarrow \) All S is P
- Some S is P \( \rightarrow \) Some S is not P
- Some S is not P \( \rightarrow \) Some S is
How to change the quality of a statement

Simply place a ‘not’ in front of it.

How to obvert an A statement

- Change the quality:
  - All S is P \(\rightarrow\) No S is P
- Then negate the predicate:
  - No S is P \(\rightarrow\) No S is not P
How to obvert an E statement

- Change the quality:
  No S is P $\rightarrow$ All S is P
- Then negate the predicate:
  All S is P $\rightarrow$ All S is not P

How to obvert an O statement

- Change the quality:
  Some S is not P $\rightarrow$ Some S is P
- Then negate the predicate:
  Some S is P $\rightarrow$ Some S is non-P
The Rule of Double Negation

A term that is not negated is equivalent to a term that is negated twice and vice-versa.

How to perform double negation

1. Place two ‘not’s at the beginning of the predicate-term
2. Make the second ‘not’ a ‘non’ and attach it to the predicate term with a dash
3. Place an ‘im’, ‘un’, ‘in’, or ‘ir’ at the beginning of the predicate term
4. Apply the rule of double negation
How to obvert an I statement

- Change the quality:
  Some S is P \(\rightarrow\) Some S is non-P
- Then negate the predicate:
  Some S is not P \(\rightarrow\) Some S is not non-P

Conversion

Interchange the subject and predicate
How to convert an E and I statements

Interchange the subject and the predicate:

No S is P → No P is S
Some S is P → Some P is S

Partial conversion of A statements

Interchange the subject and the predicate and change the quantity:

All S is P → Some S is P
Contraposition

- Obvert the statement
- Convert the statement
- Obvert the statement again

How to convert an A statement

Original Statement: All men are mortal

- Obvert: No men are non-mortal
- Convert: No non-mortals are men
- Obvert: All non-mortals are non-men
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<th>Equivalents</th>
<th>A</th>
<th>E</th>
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