

Presupposition & the excluded middle

<http://www-rohan.sdsu.edu/~gawron/semantics>

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Outline

Statement Logic & the Excluded Middle

- 1 We learned that a **tautology** is a statement in statement logic that is always true.
- 2 An important example of a tautology is:

$$p \vee \sim p$$

Look at the truth table:

p	$\sim p$	$p \vee \sim p$
T	F	T
T	F	T
F	T	T
F	T	T

This tautology is important, because it's **self-evident**. It is sometimes used as an **axiom** (but it's always **true** in classical logic).

- 3 It's called **the Law of Excluded Middle (Tertium non datur)**.

The questions

- 1 Translate the following example into statement logic:
(1) Either Susan has finished dinner or she has not finished dinner.
- 2 What does the Law of the Excluded Middle say about this sentence, given the translation?
- 3 What are the presuppositions of the following sentences?
 - Susan has finished dinner.
 - Susan has not finished dinner.
- 4 Consider a situation in which the presuppositions of the above sentences are false. Does the Law of the Excluded Middle still hold for (1)? Is our translation right? If you think it's wrong, do you have an alternative translation to suggest?