Logic Notes #10

Aristotelian Logic:
Third Figure Categorical Syllogisms

a. Valid Third Figure Forms

Name	Schema	Example
Darapti	Amp Ams Isp	All lemons are sour. All lemons are fruits. Some fruits are sour.
Disamis	Imp Ams Isp	Some human beings do stupid things. All human beings are rational. So, some rational beings do stupid things.
Datisi	Amp Ims Isp	All human beings are rational. Some human beings do stupid things. So, some beings that do stupid things are rational beings.
Felapton	Emp Ams Osp	No lemons are sweet. All lemons are fruits. So, some fruits are not sweet.
Bocardo	Omp Ams Osp	Some citrus fruits are not sweet. All citrus fruits are fruit. So, some fruits are not sweet.
Ferison	Emp Ims Osp	No living beings capable of local motion are plants. Some living beings capable of local motion are one-celled organisms. So, some one-celled organisms are not plants.

b. Analysis of the Third Figure

third figure syllogisms are sometimes called the inductive figure, because the premises have a common subject
on the basis of the two things said about the particular case, a rule (universal statement) is denied (contradicted)
by the Square of Opposition, the contradiction of a universal is a particular
since the third figure contradicts a rule on the basis of a case, this is the figure that underlies counterexamples and refutes rules

Third Figure syllogisms can be seen as: *denying a result* the major premise, results can be in any form so, denials [contradictories] can be in any form; and *asserting a case* the minor premise cases are always affirmative; yielding a *denial of the rule* the conclusion rules are always universal statements; so their denials are always particular that is why the conclusion is always negative	Denial of Result <u>Case</u> Denial of Rule	Any <u>Affirmative</u> Particular

c. Third Figure as Refutation by Counterexample

Syllogism	Counterexample (Middle Term)	Refuted Rule
All lemons are sour. All lemons are fruits. Some fruits are sour.	Lemons	No fruits are sour.
Some human beings do stupid things. All human beings are rational. So, some rational beings do stupid things.	Human beings	No rational beings do stupid things.
All human beings are rational. Some human beings do stupid things. So, some beings that do stupid things are rational beings.	Human beings	No beings that do stupid things are rational beings.
No lemons are sweet. All lemons are fruits. So, some fruits are not sweet.	Lemons	All fruits are sweet.
Some citrus fruits are not sweet. All citrus fruits are fruit. So, some fruits are not sweet.	Citrus fruits	All fruits are sweet.
No living beings capable of local motion are plants. Some living beings capable of local motion are one-celled organisms. So, some one-celled organisms are not plants.	Living beings capable of local motion	All one-celled organisms are plants.