Critical Thinking RE: Categorical Logic Basics
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Categorical Terms:

- A categorical term is a term that is either a noun or a noun phrase that relates to a class of things.
- Example: Men, dogs, cars, mortal things, all men named Socrates
    - This is opposed to a term that expresses an individual thing: Socrates.

Categorical Claim/Statement:

- A categorical claim is a claim that is made up of categorical terms. In categorical logic, both the subject term and the predicate term must be categorical terms.
- Example: All men are mortal beings.
    - Hint: to verify that each term is a categorical term switch the subject and the predicate – All *mortal beings are men* – if the claim is coherent, then the original claim is a categorical claim.
    - All apples are red – *all red are apples* → this is not a categorical claim because the switching of the terms is not coherent (Note: it does not have to be true; it must only be coherent.)

Categorical Syllogisms:

- 1) Exactly three categorical statements (2 premises and 1 conclusion)
- 2) No more than three terms (not including the *copula*) with each term appearing twice in the argument (major term, minor term, middle term).
- 3) The middle term must appear in both of the premises but cannot appear in the conclusion.
- 4) The major term must appear as the predicate in the conclusion and in one of the premises (major premise).
- 5) The minor term must appear as the subject in the conclusion and in one of the premises (minor premise).

General Rules of Validity:

- 1) A valid categorical syllogism must possess exactly three main terms.
- 2) A valid categorical syllogism cannot have two negative premises.
- 3) A valid categorical syllogism with at least one negative premise must have a negative conclusion.

Five steps to Checking Validity with Venn Diagrams:

1) Draw three overlapping circles whereby each circle represents one categorical term in the syllogism.
2) Label the circles with the terms you have chosen to represent the categorical terms.
3) Diagram the first premise (if it is not universal and there is a universal premise, always diagram the universal premise first).
4) Diagram the second premise.
5) Check to see if the diagrammed circle represents the conclusion. If it does, then the argument form is valid, if it does not, then the argument form is invalid.

Categorical Form Breakdown:

1) Universal Affirmative – All P are S → A
2) Universal Negative – No P are S → E
3) Particular Affirmative – Some P are S → I
4) Particular Negative – Some P are not S → O

} Represents the *MOOD* of the argument

Middle Term Relationship (M = Middle Term; P = Major Term; S = Minor Term):

#1	#2	#3	#4
M – P	P – M	M – P	P – M
S – M	S – M	M – S	M – S

} Represents the *FIGURE* of the argument