# **CRITICAL THINKING** Review Session #1

#### Professor David Emmanuel Gray



Informal Logical Reasoning





## The Skills You Have Practiced...

- I. Dispute analysis,
- 2. Statement classification,
- 3. Argument parsing, and
- 4. Diagramming arguments.

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### Dispute Analysis: Instructions

Analyzing a dispute between two opposing viewpoints works as follows:

- Indicate the disputed statement, I.
- Specify each disputant's position concerning that statement along with the reasons (if given) 2. each offers to justify their respective positions, and
- Explain whether the dispute is primarily (A) obviously genuine, (B) merely verbal, or 3. (C) apparently verbal but really genuine (it will only be *one* of these). If it is type (A), then explain whether the dispute is over beliefs, attitudes, or both. If it is

clear to explain whether the dispute concerns beliefs, attitudes, or both.

type (B), then indicate the ambiguous key word or phrase and explain how each disputant understands that key word or phrase differently. Or, if it is type (C), then indicate the ambiguity and explain why resolving that ambiguity is not likely to resolve the dispute, being





# Dispute Analysis: Common Problems

Many people seem to just assume that there is always some verbal ambiguity in any dispute. But a difference of opinion is not necessarily due to the parties understanding a word or phrase differently.

If you are confident that there is a verbal dispute, then identify the *precise* word or phrase that the parties are using differently, being clear how each side is using that word differently.

Never feel like you have to make stuff up or guess—just use the reasons presented by each side in the dispute.



# Dispute Analysis: Example #1

A: Hatsa finally got rid of that old Kia and bought herself a new car. She's driving a Land Cruiser now. B: No, Hafsa didn't buy a new car. That Land Cruiser is a good three years old.

Disputed statement:

Positions:

Dispute type:



# Dispute Analysis: Example #2

car. He's driving a Land Cruiser now. B: No, Hamid didn't buy a new car. It is his brother's new Land Cruiser that he's now driving.

Disputed statement:

Positions:

Dispute type:

# A: Hamid finally got rid of that old Kia and bought himself a new

#### Statement Classification: Instructions

A statement is classified as follows:

Indicate whether it is a simple or a compound statement. If it is simple, indicate whether it is negative or positive, or If it is compound, indicate whether is it conjunctive, disjunctive, hypothetical, or some combination of these.

Do not forget to indicate the type of simple statements that make up any compound statements.



#### Statement Classification: Common Problems

or negative).

#### People often forget that when dealing with a compound statement you need to figure out the type of statements for each part, until you finally reach all the simple statements (either positive



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### Statement Classification: Example #1

not be happy.

#### If I study hard for the exam, then I will either pass the exam or



# Statement Classification: Common Problems

a robot!

Common Conjunctive Indicators and but both ... and ... yet also though Common Disjunctive Indicators either ... or ... Or Common Hypothetical Indicators if ... then ...

#### Remember the compound statement indicator words. But do not get complacent—you are not

while however furthermore

unless



#### Statement Classification: Example #2

Study hard but don't do it at the last minute.





#### Statement Classification: Example #3

Study hard and you will pass this logic class.

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### Argument Parsing: Instructions

Parsing an argument for its logical content works as follows:

- Underline and denote with a CI any conclusion indicators, I.
- Circle and denote with a PI any premise indicators, 2.
- Circle and denote with a C the argument's main conclusion, and 3.
- Underline and number each premise. 4.



# Argument Parsing: Common Problems

Do not confuse *inference* indicators (premise/conclusion) with *compound statement* indicators (conjunction/disjunction/hypothetical).

#### **Common Premise Indicators**

| because      | in viev |
|--------------|---------|
| since        | givent  |
| for          | seeing  |
| as           | due to  |
| follows from | being   |

#### **Common Conclusion Indicators** therefore thus

hence

SO

w of the fact that that o the fact that that

which implies that consequently it follows that we can conclude that

assuming that for the reason that inasmuch as as indicated by the reason being

it must be that as a result which means that ergo



# Argument Parsing: Example #1

If I study hard then I will pass logic. Furthermore, if I pass logic then I will make the Dean's list. Therefore, if I study hard then I will make the Dean's list.



Argument Parsing: Common Problems

Remember that each premise and conclusion is a complete statement. This statement may either be simple or compound.

Hypothetical and disjunctive statements *cannot* be broken down into separate premises or conclusions. They are always either one single premise or one single conclusion.

Conjunctive statements *should* be broken down, each conjunct treated as a separate premise or conclusion, depending on the context.





Argument Parsing: Example #2

Either I will study hard or I will fail the class. I am not failing this class, so I must be studying hard.



### Argument Parsing: Example #3

I will study hard, because I w on the dean's list.

#### I will study hard, because I want to pass the class and I want



# Diagramming Arguments: Instructions

Diagraming an argument to reveal its inferential structure works as follows:

- Circle and denote with a C the argument's main conclusion, I.
- Underline and number each premise and sub-conclusion (if any), and 2.
- 3. Arrange these into an argument map that faithfully represents the argument as given.

support, arranging these in a clear way that is visually easy to follow.



For each argument map, put boxes around the statements and use arrows to indicate inferential





# Diagramming Arguments: Common Problems

Remember the differences between the three inference patterns:





Dependent

Premises



Premise/ Sub-Conclusion

Conclusion



# Diagramming Arguments: Example #1

class, so I must be studying hard.



# Either I will study hard or I will fail the class. I am not failing this



## Diagramming Arguments: Example #2

on the dean's list.

#### I will study hard, because I want to pass the class and I want



# Diagramming Arguments: Example #3

desire to be on the dean's list.



#### I will study hard, because I want to pass the class as I really



Next Class...

#### We will have unit exam #1.

#### Keep practicing! You can do this!

