SSH 105 Kraay's Exam Notes

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Final Exam Outline

1. Practice Exercises from textbook (answers on D2L or book)
2. Memorize and be able to apply definitions
3. Review all three quizzes carefully

Chapters

1. Intro
2. Truth and Rationality
3. Well-Formed Arguments
4. Strong Arguments
5. Reconstructing Arguments
6. Details of Argument Reconstruction
7. Evaluating Arguments

Part A: Introductory Material

Week 1

- A few key terms (premise, conclusion, etc.)
- A definition of critical thinking
- The necessary conditions for knowledge
  - ✓ Justification
  - ✓ Truth
  - ✓ Belief

Week 2

- Four views about truth/knowledge
  - ✓ Realism
  - ✓ Nihilism
  - ✓ Relativism (individual/social)
  - ✓ Skepticism

Week 3

- Two realist models of truth
  - ✓ Coherence

    - ✓ Correspondence
- Belief (and disbelief/suspend judgement) degree of confidence
- Justification
    - ✓ Principle of r/j/r
    - ✓ Principle of proportional belief
    - ✓ Fallibilism
    - ✓ Evidence

Week 4

- Two ways that a belief can be unjustified
    - ✓ Motivational errors
    - ✓ Failing to weigh evidence properly (3 versions)
- Recognizing arguments and their components (premise, conclusion, inferences)
- Components of standard form

Part B: The characteristics/classification of arguments

Week 5

- Deductive arguments: validity / invalidity
- Five sentential connectives: conjunction, disjunction, negation, conditional, biconditional
- Eleven valid argument patterns
- Several invalid patterns

Week 6

- Inductive arguments: cogency/non-cogency
- Common patterns of cogent arguments
- Common patterns of non-cogent arguments
- Ill-formed
- Deductive/inductive strength

Part C: Reconstructing arguments into standard form

Week 8

- Standard form and why it's important
- Principle of charity
- Techniques for identifying premises and conclusions
- Implicit premises

- Generalizations

Week 9

- Common mistakes in argument reconstruction (improper wording, missing premises, unnecessary premises)
- Sub-arguments

Part D: Evaluating Arguments

Week 11

- Six basic rules of argument evaluation
- Some guidelines for evaluating certain types of premises
  - ✓ Factual claims
  - ✓ Generalization
  - ✓ Conjunctions
  - ✓ Disjunctions
  - ✓ Conditionals

Week 12

- Definitions
- Vagueness and ambiguity
- Twelve common fallacies

Part A – Introductory Material

Terms and Concepts

statement/ claim – An assertion that something is or is not the case.

Proposition – The specific *thought* or *idea* that a statement expresses (same idea, in different languages)

Premise – A statement offered *in support* of a conclusion. States the *reasons* or *evidence* for accepting the conclusion

Conclusion – A statement that is held to *be supported* by a premise or premises. What the speaker wants you to *accept* or *believe*.

Argument – A set of statements one of which (the conclusion) is taken to *be supported* by the remaining statements (the premises).

Inferences – Process of reasoning from a premise or premises to a conclusion, based on those premises.

Steps of Argument Analysis

1. Figure out if it's really an argument or not
2. Reconstruct the argument
3. Evaluate the argument

Step 0 – What's *Not* an Argument

a) Some texts are just descriptive texts
b) Some texts might be an author's opinion, without reasons
c) An "if-then" by itself is not an argument
d) Explanations, by themselves, are NOT AN ARGUMENT, they are telling us WHY SOMETHING IS THE CASE.

Step 1

a) Arguments are not always presented/written/stated in the clearest way

Step 2

a) Not evaluating its literary merit or rhetorical power
b) Evaluate the rational strength of arguments

Literary merit – Argument (in writing or speech) uses verbal eloquence, flowery language

Rhetorical power – can persuade or convince but doesn't mean it's a good argument

Rational strength – when the premises provide *good reasons* to think that the conclusion is true.

Critical Thinking - the systematic analysis or formulation of arguments by rational standards

- It's systematic because it involves distinct procedures and technical methods (not just gut feelings).
- It's used to analyze existing arguments and to formulate new ones.
- It evaluates arguments in terms of how well their premises support their conclusions; in other words, their rational strength.

Rational Thinker's abilities…

- Distinguish genuine arguments (reasons, evidence) from other things
- Understand and interpret arguments
- Evaluate arguments

Factors that affect good argument analysis

- Lack of an adequate vocabulary (not knowing the right terminology)
- The desire to be tolerant and open-minded (not to be confused with the right to have an opinion)
- Missing the point of argument analysis (rational strength vs rhetorical power vs literary merit)
- Misconceptions about truth and rationality (no truths just opinions to things)
- The use of argument stoppers (cutting off an argument)

Knowledge

Three Types of Knowledge

1. Knowledge by acquaintance
2. Knowledge-*how*
3. Propositional knowledge (knowledge-*that*)

Three key ingredients in propositional knowledge (NEED ALL or urn fucked)

- Belief – have to believe there's such a thing as truth (wow tell me more)
- Truth – have to believe something is true (no shit)
- Justification – have to give reasons for *why* you believe something is true

Interrogative Sentences – Used when we ask questions (Have you eaten lunch yet?)

Imperative Sentences – Used when we are commanding an order (EAT YOUR LUNCH NOW!)

Declarative Sentences – Used when we are describing a sentence (I have eaten my lunch)

Realism

- There are truths in that subject area
- These truth don't depend on anyone's beliefs about them (objective)
  - ✓ Mathematics are realists 2+2=4
  - ✓ Science (bio, chem, …)

Pros	Cons
- Either true or not - We can all agree	- Fit into our intuition - Can't apply to some subjects (art)

Nihilism

- No truths whatsoever
- **Moral Nihilism** – view that moral statements have no truth value (neither true/false)
  - ✓ Politics
  - ✓ How to run the society
  - ✓ Religion (god and shit)

Pros	Cons
- Keeps you on neutral grounds (good vs bad person) - Easier to say there are no truths	- Extremely implausible in many subject areas - About everything is self-defeating

Relativism

- There are truths in that subject area
- But it depends on (relative to) what we believe them to be
- Almost like realism
  - ✓ How to raise a kid
  - ✓ Acceptance of slavery
- **Subjective Relativism** – the truth depends on individuals ("that's true for me")

Pros	Cons
- Have your own opinion and not be wrong - Open-minded/tolerant - Balance between two extremes	- Might not be tolerant (slavery isn't acceptable in some places) - Says that we can never be wrong (bitch I'm always right) - It's self-defeating

- **Social Relativism** – the truth depends on a society/culture ("that's true for us")
- History facts and science are objective (can't be a relativist about everything)

Philosophical Skepticism

- There are truths
- We don't know what most of them are (we know a lot less than we think or none at all)

- **Dream Hypothesis –** what if all this is a dream, and I can't trust anything?
- **Genius Hypothesis** (machine hypothesis) – what if some evil genius is controlling my reality, like in the Matrix, and I can't really trust anything to be real? What if I'm being deceived?

Pros	Cons
- Better to withhold judgement	- It's self-defeating - Absolute certainty about something is asking for too much

Putting it all together

- Nihilism, relativism, and skeptic all deny something about truth and/or knowledge
- All are self-defeating if taken about *everything*

Two Realist Models of what makes a statement/proposition true

- These models assume realism – have truth-values, objective, and can be known

The Coherence Model of Truth

- Proposition is true, if and only if it's coherent/consistent with a system of well-supported propositions; otherwise it's false
    - ✓ Today is Thursday because yesterday was Wednesday
- Drawbacks
    a) If we're dreaming, our beliefs only seem to fit in with other beliefs – none of them are actually true.
    b) New evidence can weaken or destroy a system of propositions that supports a main proposition. (ur 'loyal' spouse cheats on u sux)

The Correspondence Model of Truth (think realism)

- A proposition is true in that it describes things as they actually are. A true proposition *corresponds to the facts.*
- A proposition is false if it fails to describe things as they are
- Drawbacks
    a) Some propositions don't fit this model, even if we think they are really true/false
        - Moral, past, and future statements
            - If Hitler died WWII wouldn't have happened
            - You should keep your promises
    b) How can we check that our whole system of beliefs corresponds to the facts?

- We are trapped within our senses: we can never stand outside of ourselves to view the world objectively.
- We could be dreaming (think skepticism)

One Truth Value – every proposition has one truth-value at a given time, either true/false not both

Belief

When you consider any proposition, you have to consider three options:

1. Believe it
2. Disbelieve it
3. Suspend judgement

These are mutually-exclusive (can't be all at once tf control urself)

Other terms often used for "believes" : thinks, feels, holds, contends, claims, maintains, etc.

Belief and disbelief come in varying degrees of strength (on a spectrum)

Justification

Evidence – info pertaining to the truth or falsity of a proposition
Principle of Rational/Justified/Reasonable Belief

(a) If your evidence supports the proposition, it's rational to believe it.

(b) If your evidence goes against the proposition, it's rational disbelieve it.

(c) If your evidence is neutral, then it is rational to suspend judgment.

Basically, it's rational to believe a proposition if you have enough of the right kind of evidence to support it.

Fallibilism – the view that a belief can be r/j/r even though it's false (the world is flat)

Differences/Changes in Evidence

1. Two different people at the same time have different evidence that leads them to different r/j/r conclusions (two detectives)
2. An individual's evidence may change over time and different beliefs may be rational for them at different times (world is flat)

How much evidence is needed?

- Kind and amount of evidence is based on the context
- The higher the stakes, the more evidence required

Principle of Proportional Belief

The stronger one's evidence for the truth of a proposition, the stronger one's belief in it should be (and vice versa).

Three Ways That Beliefs can be Irrational/Unjustified/Unreasonable

1. Motivational Errors
    - Being unduly influenced by what we want to be true/false rather than focusing on the evidence (wishing Santa is real)
2. Failing to Weigh all the Available Evidence Properly
    - Ignoring some of the available evidence
    - Undervaluing *contrary* evidence (disconfirmation bias) by rejecting or being excessively critical of contrary evidence
    - Over-valuing *confirming* evidence (confirmation bias)
    - Over-valuing "psychologically available" evidence by giving too much weight to memorable, striking or vivid evidence (scared of airplanes cuz of the news)

How to Recognize Arguments

- Looks for a conclusion and premises
- Ask yourself: is the author trying to get me to believe something by giving me a reason in supporting of it?
    - ✓ Yes then you've got an argument
    - ✓ No then sorry fam no argument here

Conclusion Indicators	Premise Indicators
- Thus - Therefore - Hence - Entails - …It follows that… - …we may conclude that… - …this proves that… - consequently - so	- since - because - for - …given that… - …for that reason that…

- Indicator words may not be present in arguments
- Premises don't always come before conclusions and vice-versa
- Advice: try to find conclusion first!

Truth and Rational Strength

- Evaluating the truth-value of premises and conclusions is different than evaluating the rational strength of arguments

The Components of "Standard Form"

- Individually numbered premises and conclusions
- Only one premise/conclusion per line
- The word "therefore" or ∴ before the conclusion
- Brackets after conclusions indicating the justification (which premises are supporting)

Part B – The Characteristics/Classification of Arguments

Deductive Arguments

Intends to provide logically conclusive support for the conclusion (if the premises are true, conclusion must be too)

Deductive Validity

- If and only if it's not possible for all the premises to be true and the conclusion false
  - ✓ if all the premises were true, the conclusion would have to be true too
  - ✓ the conclusion logically follows from the premises
  - ✓ in a world where the premises are all true, the conclusion is guaranteed to be true as well

  an argument is invalid if and only if it's not valid (lol no shit)

  the term 'valid' only applies to arguments not to premises or conclusions.

  1. I love SSH105
  2. If I love SSH 105, I'll be smarter

  ∴ 3. I'll be smarter (from 1,2) VALID

Validity Test

Imagine/suppose that the premises are all true, then would the conclusion have to be true as well?

- If yes, argument is valid
- If no, argument is invalid

Remember, a valid argument doesn't have to have true premises and conclusion, it just has to have a logical relationship between the premises and conclusion.

The truth-value of the premises and conclusions doesn't matter for the argument to be valid. The logical structure is what's important

For the validity test, we don't care if the premises are actually true or not.

Arguments are "truth-preserving" because if premises are true, the conclusions must be true as well. ARGUMENTS CANNOT HAVE FALSE PREMISES AND TRUE CONCLUSION (not referring to truth-value chill).

Five Sentential Connectives

1. Conjunction
    - Compound statements composed of two parts called conjuncts

      P and Q

      P & Q

      Eg. I have a cat and a dog
2. Disjunction
    - Compound statements with 'or'

      Either P or Q

      P v Q

      Eg . Either the picnic was canceled or it was sunny.
3. Negation
    - Negating or denying a statement

      Not P

      ~ P

      Eg. Critical thinking is not a hard class. Lol

4. Conditional
    - Compound statements with two parts
        1. Antecedent – what follows the word "if"
        2. Consequent – what follows the word "then" or "only if"

        If P, then Q

        P → Q

        Eg. If it rains, then the picnic is cancelled.

    1. Not always expressed in logical form so be aware
5. Biconditional
    2. Almost the same as condition but…

        P if and only if Q

        (If P then Q and if Q then P) all together

        Eg. You can enter the club if and only if you gave legit ID

Eleven Valid Argument Patterns

1. Argument by Elimination

    1) P or Q 1) Either American League will win or the Nation League will win

    2) ~P. 2) The American League won't win

    3) Q. 3) The National League will win

2. Conjunction

    1) P.

    2) Q.

    3) P and Q

3. Simplification

    1) P and Q 1) Sarah knows logic and Sam does not know logic

    2) P 2) Sarah knows logic

4. Affirming the antecedent (Modus Ponens)

    1) If P then Q 1) If the president is in the White House, then the president is in

Washington

2) P. 2) The president is in the White House

3) Q. 3) The president is in Washington DC

5. Denying the Consequent (Modus Tollens)

1) If P then Q 1) If the president is in the White House, then the president is in Washington

2) ~Q 2) The president is not in Washington DC

3) ~P 3) The president is not in the White House

6. Hypothetical Syllogism

1) If P then Q 1) If Jones passes the test, then Jones passes the course

2) If Q then R 2) If Jones passes the course, then Jones graduates

3) If P then R 3) If Jones passes the test, then Jones graduates

7. Contraposition

1) If P then Q

2) If ~Q then ~P

8. Universal Modus Ponens

1) All A's are B's 1) All men are mortal

2) x Is an A 2) Socrates is a man

3) x is a B 3) Socrates is mortal

9. Universal Modus Tollens

1) All A's are B's 1) All desserts are sweet

2) x is not B 2) This lima bean is not sweet

3) x is not an A 3) This lima bean is not a desert

10. Universal Hypothetical Syllogism

1) All A's are B's	1) All fork-tailed flycatchers are birds
2) All B's are C's	2) All birds have wings
3) All A's are C's	3) All fork-tailed flycatchers have wings

11. Universal Ruling Out

1) No A's are B's	1) No men are mothers
2) x is an A	2) Tom Cruise is a man
3) x is not a B	3) Tom Cruise is not a mother

A's and B's represent characteristics and attributes

x represents individual objects and things

Some Invalid Argument Patterns

Denying the Antecedent

1) If P then Q	1) If the president is in the White House, then the president is in Washington
2) ~P	2) The president is not in the White House
3) ~Q	3) The president is not in Washington DC

Affirming the Consequent

1) If P then Q	1) If the president is in the White House, then the president is in Washington
2) Q	2) The president is in Washington
3) P	3) The president is in the White House

1) All A's are B's	1) All men are mortal
2) x is not a A	2) Fido is not a man
3) x is not a B	3) Fido it not mortal

1) All A's are B's	1) All men are mortal

2) x is a B 2) Fido is mortal

3) x is an A 3) Fido is a man

Inductive Arguments

Premises are intended to give probable support for the conclusion.

Cogency

If and only if it is not valid, but if the premises are true, then the conclusion would probably be true. Otherwise it's non-cogent

- "There, probably" is used for cogent arguments
- "a few", "some" indicate that it's non-cogent because it's only possible not probable
- Truth-value doesn't matter, what's important is the logical relationship between premises and conclusion

Cogency Test

Imagine (suppose) the premises are true....

- Does this make it so that the conclusion is probably true?
- If YES – then it's a cogent argument!

Basically cogency test = likely , validity test = guaranteed

When testing for cogency, the issue is not whether the premises and conclusion are actually true/false; it's whether the premises, if all true, would make the conclusion probable. Basically we don't care if the shit is true in real life or not, as long as the argument makes fucking sense.

Some Cogent Argument Patterns

1) Most A's are B's 1) Most Americans watch the Super Bowl

2) x is an A 2) Ann Landers is an American

3) x is a B 3) Ann Landers watches the super Bowl

1) x is an A 1) Tiger is healthy

2) x is a B 2) Tiger is a cat

3) Most AB's are C's 3) Most healthy cats like to chase mice

4) x is a C 4) Tiger likes to chase mice

Arguments that are invalid or non-cogent are called **ill-formed**, since the premises do not guarantee that the conclusion is true or even probable

An important contrast

Validity doesn't come in degrees; it's either valid or invalid

But cogency does come in degrees; one argument can be more or less cogent than another like the weather forecast (80% chance of rain vs 40%)

Deductive Strength

An argument is **deductively strong** (for a person at a time) if and only if

1. it's valid
2. r/j/r for the person to believe that all of the argument's premises are true, based on the available evidence

An argument is **deductively weak** (for a person at a time) in three ways

1. it's invalid
2. not r/j/r for the person to believe that one or more of the argument's premises, based on the available evidence
3. all of the above

dumbed down version

An argument has to pass two tests….

First test: Is it valid? (If not, it's automatically disqualified!)

Second test: Is it reasonable to believe that the premises are actually true, based on the available evidence?

A valid argument can be either strong or valid

A strong deductive argument can only be valid

If its r/j/r to believe that all the premises of a valid argument are true, then it is r/j/r to believe that the conclusions is true as well. It's unreasonable to disbelieve the conclusion of a deductively strong argument.

Rationality/justification/reasonableness comes in degrees, so the more r/j/r it is to believe that the premises of a valid argument are true, the more reasonable it is to believe that the conclusion is true, too.

Recall the principle of proportional belief (p.47 and Lecture 3): the stronger the available evidence for the premises, the more r/j/r it is to believe them.

Two ways in which it can fail to be rational/justified/reasonable (for a person, at a time) to believe that a premise is true

1. the available evidence makes it r/j/r to believe that it's false
2. the available evidence makes it r/j/r to suspend judgment

Recall fallibilism (p.43 & Lecture 3): it can be rational/justified/reasonable to believe a false claim. So, an argument can be deductively strong (for a person at a time) even though the conclusion is false.

Inductive Strength

An argument is **inductively strong** (for a person at a time) if and only if it's

1. cogent
2. rational/justified/reasonable for the person to believe that all of the argument's premises are true based on the available evidence, and
3. the argument is not defeated by the person's total evidence

(1) Most university professors are older than 45.

(2) Kraay is a university professor.

Therefore, probably

(3) Kraay is older than 45.

An argument is **inductively weak** (for a person at a time) in **four** ways

1. non-cogent
2. not r/j/r for the person to believe that one or more of the argument's premises, based on the available evidence
3. the argument is defeated by some other piece of evidence
4. all of the above

dumbed down version

An argument has to pass three tests….

First test: Is it cogent? (If not, it's automatically disqualified)

Second test: Is it reasonable to believe that the premise are actually true, based on the available evidence?

Third Test: Can the conclusion be defeated by independent evidence?

A cogent argument can be either strong or valid

A strong inductive argument can only be cogent

Cogent but Weak

(1) Most professors are one-legged.

(2) Kraay is a professor.

Therefore, probably,

.: (3) Kraay is one-legged.

Recall the principle of proportional belief (p.47 and Lecture 3): the stronger the available evidence for the premises, the more r/j/r it is to believe them.

Two ways in which it can fail to be rational/justified/reasonable (for a person, at a time) to believe that a premise is true

1. the available evidence makes it r/j/r to believe that it's false
2. the available evidence makes it r/j/r to suspend judgment

e.g. number of stars in the milky way is odd/even (we would never know)

Recall fallibilism (p.43 & Lecture 3): it can be rational/justified/reasonable to believe a false claim. So, an argument can be inductively strong (for a person at a time) even though the conclusion is false.

Most of these were the same as deductive strength but…

Something Different about Inductive Arguments: Defeat

An inductive argument is defeated (for a person at a time) if and only if it is r/j/r for that person to believe some other claim that gives good reason to think that the conclusion is false or that you should suspend judgment about it

(1) Most university professors are older than 45.

(2) Kraay is a university professor.

Therefore, probably

(3) Kraay is older than 45.

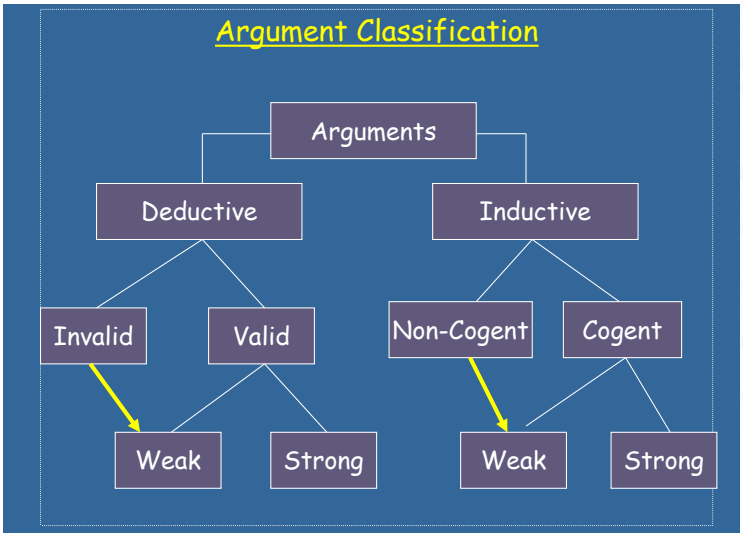
If you have good reason to believe that (1) and (2) are true, this gives you reason to believe (3), since it's a cogent argument. But: you might have independent evidence against (3).

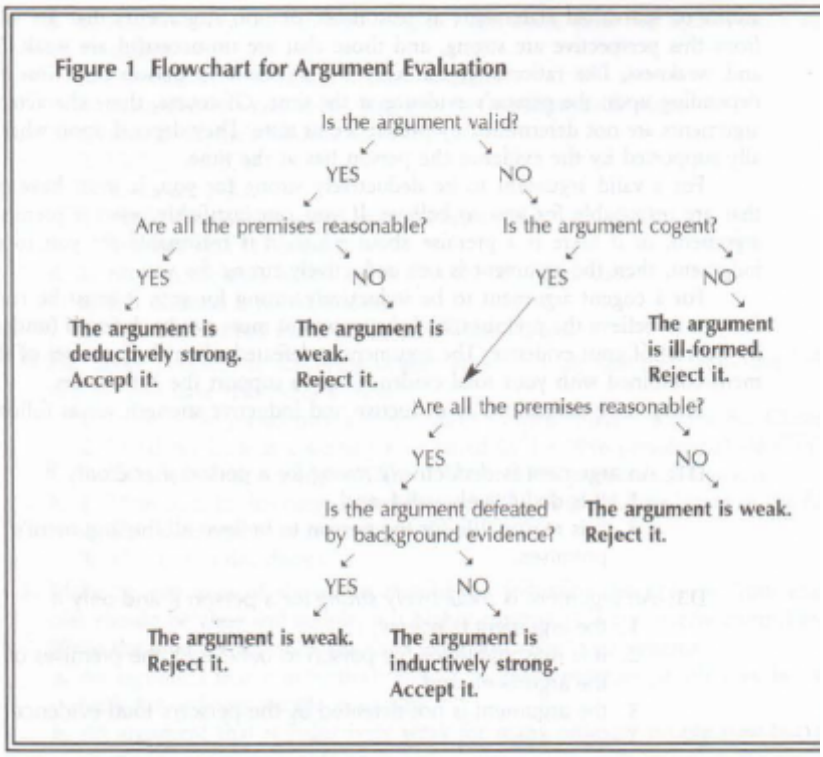
If it is rational/justified/reasonable to believe that all the premises of a cogent argument are true, AND it is not defeated, then it is rational/justified/reasonable to believe that the conclusion is true as well.

Rationality/justification/reasonableness comes in degrees, so the more r/j/r it is to believe that the premises of a cogent argument are true, the more reasonable it is to believe that the conclusion is true too (provided it is not defeated).

Cogency also comes in degrees, so the more cogent an argument is, the more reasonable it is to believe it's conclusion (provided that the premises are r/j/r and the conclusion is not defeated)

It's unreasonable to disbelieve the conclusion of an inductively strong argument.





Part C: Reconstructing Arguments into Standard Form

Reconstructing an argument – taking pieces of prose, text, speech and turning it into a standard form argument

The Components of "Standard Form"

- Individually numbered premises and conclusions
- Only one premise/conclusion per line
- The word "therefore" or ∴ before the conclusion
- The word "probably" before the conclusion of an inductive argument
- Brackets after conclusions indicating the justification (which premises are supporting) and the argument pattern (if it has a name)

Example:

1. All politicians are talented communicators.
2. Donald Trump is a politician.

Therefore,

3. Donald Trump is a talented communicator. (from 1,2 by Universal Modus Ponens)

Principle of Charity (super important yo)

Dumb version:

- DON'T: twist other people's words (either for the better or for the worse)!
- DO: be fair when you express someone's position

When reconstructing arguments:

1. make the argument as strong as possible
2. consistent with what you take to be (upon careful and fair-minded reflection) the author's intention.

More technical way of saying it:

When reconstructing an argument, try to formulate a reconstruction that is well-formed, has premises that are r/j/r *for the author/speaker*, and (in the case of inductive arguments) that is undefeated.

How to Recognize Arguments

Look for a conclusion (a statement that is being supported), and look for premises (the statements offering support).

Ask yourself: is the author trying to get me to believe something by giving me a reason in supporting of it?

- ✓ Yes then you've got an argument
- ✓ No then sorry fam no argument here

What's not an argument?

1. Descriptive writing
2. Rhetorical writing – this merely asserts one or more conclusions without reasons

Some Techniques for Identifying Conclusions

1. Try to ignore non-argumentative material (such as descriptive writing and rhetorical writing).
2. Remember that any proposition on any topic, expressed by any person, at any time, can be a conclusion.
3. Ask yourself: what's the overall point of the (argumentative portion of the) text/speech? That will likely be the main conclusion

   Be careful with these common expressions:

   "My argument is that …"

   "I would argue that …"

   Typically, what comes next isn't an argument at all – it's the conclusion
4. Remember that one text/speech may well contain
   a. Several independent arguments
   b. Sub-arguments
5. Look for conclusion indicators, such as:

   thus

   therefore

   hence

   entail(s)

   implies

… it follows that …

… we may conclude …

… this proves that …

consequently

so

establishes

shows

6. Remember that conclusion-indicators aren't always present
7. Remember that conclusions don't always come last in actual texts/speeches, even though we put them last in standard form
8. Sometimes conclusions aren't explicitly stated at all!

   Suppose your doctor says: "Look, everyone who has high cholesterol is at risk of having a heart attack, and you have very high cholesterol…"

9. Sometimes the conclusion that is explicitly stated isn't the one the speaker/author is really arguing for.

   See Feldman's Example 9 (p.134) of the lawyer who explicitly concludes "I believe that Gil.T committed the crime", but who offers reasons for a related, but quite distinct, conclusion.

In cases like these, it is extremely important to go slowly, and to follow the Principle of Charity

Some Techniques for Identifying Premises

1. Try to ignore non-argumentative material (such as descriptive writing and rhetorical writing).
2. Remember that any proposition on any topic, expressed by any person, at any time, can be a premise.
3. Ask yourself: what are reasons or evidence being offered by the speaker/author. These are likely the premises.
4. Remember that one text/speech may well contain
   a. Several independent arguments
   b. Sub-arguments
5. Look for premise-indicators, such as:

since

because*

given that

for the reason that

on the basis of … I conclude that …

my reasons are as follows:

my evidence is …

6. Remember that premise-indicators aren't always present
7. Remember that premises don't always come first in actual texts/speeches, even though we put them first in standard form
8. Sometimes premises aren't explicitly stated at all!

   Suppose your professor says: "Look, if you partied the night before the quiz, you won't pass. Obviously you are not going to pass."

9. Sometimes a premise that is explicitly stated isn't the one the speaker/author really intends to use in her argument.

   "Most left-handed people have difficulty using regular can-openers. Emma is left-handed, so, probably, she has difficulty using kitchen appliances designed for right-handed people."

10. Premises can be stated in very unclear/obscure ways When reconstructing the argument in standard form, try to state the premises as clearly and simply as possible.

In cases like these, it is extremely important to go slowly and to follow the Principle of Charity … and to do lots of practice exercises!

Adding Implicit Premises When Reconstructing an Argument

Recall: sometimes authors/speakers don't explicitly state all of their premises. When reconstructing, we have to determine what the implicit premises are.

We must always follow the Principle of Charity here.

Principle of Faithfulness: When adding implicit premises, make sure they are consistent with the intentions of the author/speaker.

Principle of Charity for Implicit premises: When adding implicit premises, add ones that are r/j/r to believe rather than ones that are obviously fake

Implicit Premises that are not Generalization

"If carbon emissions will continue to increase, global warming will accelerate. Global warming is going to accelerate".

Note the logical form:

(1)If A then B

(2) A (implicit)

.: (3) B (from 1,2 by modus ponens)

Generalization

Many arguments contain statements like this:

All As are Bs	universal generalization
Most As are Bs	non-universal generalization
Many As are Bs	non-universal generalization
Some As are Bs	non-universal generalization

The terms "all", "most", "many", and "some" are called **quantifiers**.

Note: the word 'generalization' has a negative connotation, but that's not how we're using this term. Many generalization after all, are true:

"All licensed drivers are over three years old"

"All bachelors are unmarried"

"Most human beings have two eyes"

Sometimes, we need to make decisions about what quantifier the speaker/author intends.

Consider:

"The students in that class are diligent"

"Students like to drink alcohol"

Does the speaker/author mean:

All? Most? Some?

It's OK to add a quantifier, where appropriate, but make sure that you follow the Principle of Charity!

Suppose someone says: "Tweety can fly. So he must be a bird"

Which reconstruction should we choose?

1. Tweety can fly.
2. All things that can fly are birds. (implicit)

.: 3. Tweety is a bird. (from 1 & 2 by universal modus ponens)

1. Tweety can fly.
2. Tweety is a living thing.
3. All living things that can fly are birds. (implicit)

.: 4. Tweety is a bird. (from 1-3)

In both cases, the added generalization is false

We have to decide, from the context, which premise best captures the speaker's intention.

All people, who are smart are successful lawyers. (Implicit)

All female lawyers, who are smart are successful lawyers. (Implicit)

Note the first sentence is a more wide generalization and the second is a more narrow generalization

Always label implicit premises as such in brackets.

Cheap Validity

Consider:

1. Pigs can fly.

.:2. I will pass SSH105. (from 1)

This argument is ill-formed but we can turn it into a valid argument easily, by adding a premise:

1. Pigs can fly.
2. If pigs can fly, I will pass SSH105. (implicit)

.:3. I will pass SSH105. (from 1 & 2 by modus ponens)

Now we can say that the argument is valid but weak

Cheap validity – adding a premise to an argument that makes it valid, but results in a weak (and ridiculous) argument.

Common Mistakes in Argument Reconstruction

1. **Improper Wording**

   "Jim studies regularly. Since most people who study hard will do well in school, it's likely that Jim will do well."

   1. Most people who study hard will do well in school.

   2. Jim studies regularly

   .:, probably,

   3. Jim will do well.

   Shifting in wording "hard" vs "regularly"

2. **Missing Premises**

   If you leave out one or more premises, you misrepresent the argument and this can affect your evaluation of it. So:

   (a) Try your best to include all the premises explicitly given by the author/speaker.

   Eg: Someone might give six reasons for a conclusion, but including just (say) four of them might make the argument ill-formed or weak. So you really need to include all six.

(b) Try your best to include all the implicit premises that are intended by the author/speaker.

- where possible, re-word the explicit premises so that they conform to one of our standard patterns (e.g. All As are Bs, If P then Q, etc)
- pay attention to the logical pattern/form of the argument

(c) Always include parenthetical justifications for conclusions, and double-check them to see if they actually make sense!

3. **Unnecessary Premises**

(a) Don't include non-argumentative material (e.g. descriptive writing or rhetorical writing) in the standard form argument.

If you include such material, you will wind up assessing irrelevant claims when you evaluate the argument.

(b) A speaker/author may repeat a premise/conclusion, but just put it in the standard form reconstruction once

(After all, repeating something doesn't make it stronger, just like saying something loudly doesn't make it more plausible!)

Compound Arguments

Complex arguments that contain two or more sub-arguments, and a main argument.

(Note: they can include only valid patterns, only invalid patterns, or both).

One statement "wears two hats."

1. The conclusion of a sub-argument

   AND

2. A premise of the main argument

1. Ryerson is right on the subway line.

.: 2. It has a convenient location (from 1)

3. It has attractive programs.

4. It has friendly professors.

.: 5. Ryerson is a great university (from 2, 3,4)

1-2 is the sub-argument

2-5 is the main argument

Notice that notice that the subargument and main argument are invalid … but we could add implicit premises to make them valid:

1. Ryerson is right on the subway line.

2. If Ryerson is located right on the subway line, then it has a convenient location.

.: 3. It has a convenient location (from 1,2 by modus ponens)

4. It has attractive programs.

5. It has friendly professors.

6. If Ryerson has a convenient location, attractive programs and friendly professors, then it is a great university (implicit premise)

.: 7. Ryerson is a great university (from 3,4,5 by modus ponens)

Crucial points:

- always check your parenthetical justifications to see if they make sense.
- not every argument/sub-argument will have one of our common forms.
- Order of premises doesn't matter as long as they come before their conclusion

Implicit Premises

- Only add them when the principle of charity allows it.
- Always label them as implicit premises in your reconstructions.
- Adding an implicit premise in order to make an argument (or subargument) valid is not necessarily "cheap validity".
- Adding implicit premises where appropriate can help us better evaluate the argument.
- Reassurance regarding quiz/exam questions that involve putting arguments in standard form: I will always tell you whether or not I want you to think about implicit premises.

Part D: Evaluating Arguments

Point of Evaluating Arguments

Evaluating arguments is not about being hyper-critical, excessively negative, nit-picky, or "winning".

Ultimately, it is about figuring out:

- what is reasonable to believe (since we want to get at the truth)
- what is not reasonable to believe (since we want to avoid error)

and, since our beliefs shape our actions, it is also about figuring out:

- what actions are reasonable to perform
- what actions are not reasonable to perform

Six Basic Rules of Arguments Evaluation

1. Don't Criticize an Argument by Merely Denying Its Conclusion

   You should give reasons! (And watch out for disconfirmation bias.)

   What kind of reasons? Well, consider these three cases:

   (a) if the argument is ill-formed…

   … point out that the premises just don't support the conclusion.

   (b) if the argument is valid…

   … focus on whether the premises are r/j/r to believe.

   (c) if the argument is cogent…

   … then you should focus on both of these things:

   (i) whether the premises are r/j/r to believe.

   (ii) whether the argument is defeated.

2. Don't Accept an Argument Simply Because You Believe the Conclusion

   Watch out for confirmation bias

   Recall that there can be weak arguments for true conclusions.

   1. All university professors are male.

   2. Kraay is a university professor.

   .: 3. Kraay is male. (from 1,2, by Universal Modus Ponens)

Remember that a conclusion can be r/j/r to believe based on just 1 good argument.

(A whole bunch of bad arguments for a conclusion do not add up to a good cumulative case for that conclusion!)

3. Direct Your Criticisms at Individual Premises (or Inferences)

Where possible, criticisms should focus on:

(a) individual premises

as not rational/justified/reasonable to believe, because either

(i) you have good reason to think the premise is false; or

(ii) you have good reason to suspend judgment about it.

(b) individual inferences

- as either invalid or non-cogent

Sometimes, we have a general sense that something is wrong with an argument, but we can't tell what. That's OK as a starting point, but we need to make our criticisms more specific.

4. Make Your Criticisms of Premises Substantial

A substantial criticism of a premise gives reasons to think the premise is not r/j/r to believe, because either

(i) you have good reason to think the premise is false; or

(ii) you have good reason to suspend judgment about it.

Examples of typically insubstantial criticisms of a premise:

(a) "Maybe the premise is false" or "Possibly the premise is false"

(b) "That premise hasn't been proven"

(c) using argument stoppers, like:

"That's just your opinion", "Who's to say whether that's true",

"That's just a subjective judgment"

Phrases like these typically refuse to take the argument seriously.

A good test of whether a criticism is substantial: ask yourself how a reasonable defender of the premise/argument would react.

5. Don't Accept the Conclusions of Two Competing Arguments

Suppose that an argument aims to support conclusion C. A competing argument is one that aims to support the negation of this conclusion, not-C

Premise X	Premise P
Premise Y	Premise Q
.: C	.: not-C

You cannot, at the same time, think both arguments are equally strong (while being rational).

If they really seem that way, you should suspend judgment about the merit of both arguments, and (all else equal) about the truth-value of C.

Two competing arguments can't both be equally strong (for you at a given time), but they can both be weak.

(When people say there are "strong arguments on both sides" of an issue, they probably mean that different people think different arguments are strong.)

6. Don't (Merely) Object to Intermediate Conclusions of Compound Arguments

Recall that a compound argument is one that contains sub-argument.

1. The maid was out of the country at the time of the murder.

2. If the maid was out of the country at the time of the murder, she didn't commit the murder.

.: 3. The maid didn't commit the murder. (from 1,2 by modus ponens)

4. Either the maid or the butler committed the murder.

.: 5. The butler committed the murder. (from 3,4 by arg. by elim.)

Recall also that (3) plays two roles: it's the conclusion of a sub-argument AND a premise in the main argument.

In such cases, you shouldn't just criticize (3), you should criticize the reasons offered for (3), or the inference leading to (3).

One important exception the book fails to mention: it is legitimate to object to an intermediate conclusion when you think the sub-argument is (i) inductive and (ii) is defeated.

Some Guidelines for Evaluating (Certain Types of) Premises

1. Specific Factual Claims

   Based on the total available evidence you have at a given time, you should either believe, disbelieve or suspend judgment about such claims … whatever is most appropriate.

   Recall our rule of thumb: the higher the "stakes", the more evidence we require for a believing a premise.

2. Generalization

	How to Verify	How to Falsify
"All As are Bs"	See All A's are B's "harder"	Find 1 A that is not B
"Most As are Bs"	50%+ A's are B's	Less than 50% A's are B's
"Some As are Bs"	Find 1 A that is B	None A's are B's "harder"

3. Compound Sentences

   Conjunctions ("A and B")

   Evaluate each of the conjuncts separately. Both of them must be true for the conjunction as a whole to be true.

   If either conjunct is false, the whole conjunction is false.

   Disjunctions ("A or B")

   Inclusive interpretation: "A or B or both"

   Exclusive interpretation: "A or B but not both"

   Only one disjunct has to be true for a disjunction, as a whole, to be true.

   If both disjuncts are false, the whole disjunction is false

Alternatives are

- **exhaustive –** lists all possibilities
- **non-exhaustive** – doesn't list all possibilities
- **exclusive** – cannot have both or all
- **non-exclusive** – don't rule each-other out (can have both)

Different Combinations of Alternatives

Exhaustive and exclusive: Pregnant or non-pregnant

Exclusive and non-exhaustive: you'll either get an A or C

Exhaustive and non-exclusive: a list of all Ryerson degrees

Non-exhaustive and non-exclusive: sandwich or soup for lunch

If ur confused af just go back to the definitions and connect the dots

To test whether an alternative is exhaustive ask:

"Are these all the possible options?"

To test whether an alternative is exclusive ask:

"Do these options rule each other out?"

The **fallacy of false dichotomy** occurs when the premise(s) claim or assume that a choice between two alternatives is exhaustive or exclusive or both, when the choice is not.

"You're either for us or you're against us"

"You're either a teacher, or else you're a student"

Such premises are not r/j/r to believe!

Conditionals ("if P then Q")

Recall a few key points:

- P is the antecedent and Q is the consequent.
- A conditional claim does not assert that either the antecedent or the consequent is true.

Three cases:

(A) When the antecedent is true, the consequent is guaranteed to be true.

"If Susan is a sister, then Susan is female"

(B) When the antecedent is true, the consequent is probably true.

"If Adam is a basketball player, he is over six feet tall"

(C) When the antecedent is true, the consequent is neither guaranteed to be true nor probably true.

"If today is Thursday, then monkeys like bananas"

If you (charitably) think a premise is like Case C, you should reject it.

If you (charitably) think a premise is like Case A, you can rephrase it to make the proposed connection obvious:

"If Susan is a sister, Susan is definitely female"

- If you (charitably) think a premise is like Case B, you can rephrase it to make the proposed connection obvious:

"If Adam is a basketball player, he is probably over 6 feet tall"

The general test you should use is this: imagine / suppose / pretend that the antecedent is true, and then ask yourself: what does that tell us about the consequent?

- If the consequent has to be true, then you should believe the conditional.
- If the consequent is not guaranteed to be true, then you should disbelieve the conditional.
- If you can't tell, then you should suspend judgment.

Necessary and Sufficient Conditions

Sometimes we reason about what to believe or do by thinking about what is necessary or sufficient for what.

- The restaurant claims to provide excellent service, but if it did, then their waiters would pay attention to detail. Their waiters never pay any attention, so the restaurant does not provide good service. (it's needed)
- Robbing this casino is one way to become a millionaire, so I plan to do it. (not the only way)
- Keeping my grass green requires lots of fertilizer, so I'm going to spread some fertilizer this weekend.

Necessary Conditions

when X is absent, Y cannot occur.

when P is false, Q must also be false

X: Oxygen	X: Unmarried
Y: Fire	Y: Bachelor

P: "Oxygen is present" P: "Jim is unmarried"

Q: "Fire occurs" Q: "Jim is a bachelor"

The Test: Could you have Y without X?

Could Q be true while P is false?

If the answer is 'no', you have a necessary condition.

Sufficient Conditions

when X is the case, Y must be the case.

when P is true, Q must also be true

X: You get an A in the class P: "Fifi is a poodle"

Y: You pass the class Q: "Fifi is a dog …"

The Test: Could X be present, without Y occurring?

Could P be true while Q is false?

if the answer is 'no', you have a sufficient condition.

A key connection: A is sufficient for B = B is necessary for A.

Necessary and sufficient conditions are related in interesting ways.

(1) A can be necessary but not sufficient for B.

(2) A can be sufficient but not necessary for B.

(3) A can be both necessary and sufficient for B.

But remember, not all conditions are either necessary or sufficient for each other:

Eg: *being a Ryerson student being a Sociology student*

Enormously important debates are all about necessary and sufficient conditions. For example, what is necessary and sufficient for:

"marriage"
"human life"

Conditionals Express Necessary / Sufficient Conditions

We can use a conditional sentence to state that one condition is sufficient for another.

If P, then Q

The truth of the antecedent would be enough for the consequent to be true too.

e.g., If you get D, then you will pass.

If this is true, then if you get a D, then it's guaranteed that you will pass.

We can use also a conditional sentence to state that one condition is necessary for another.

If P, then Q

The truth of the consequent is necessary for the truth of the antecedent.

e.g., If you make an apple pie, then you must have apples.

If this is true, then having apples is a necessary condition for (an essential requirement for) making an apple pie.

Putting it Together:

If P, then Q

= P is sufficient for Q

= Q is necessary for P

Different ways to state conditionals

We can say the same thing by reversing the order of the consequent and antecedent and negating both of them.

If P, then Q

If Not-Q, then Not-P

If Trudeau is the prime minister, then he's a politician.

If Trudeau is not a politician, then he is not the prime minister.

These SAY EXACTLY THE SAME THING.

(Recall our valid argument form called contraposition.)

We sometimes use 'only if' to say that one condition is necessary for another.

P only if Q

Trudeau is the prime minister only if he's a politician.

This way of putting it SAYS THE SAME THING as

If Trudeau is the prime minister, then he's a politician.

In other words:

P only if Q is logically equivalent to:

If P then Q

There are lots of ways of saying that one thing is necessary or sufficient for something else.

To pass the course you have to study.

1. Identify the two conditions:
    1. Passing the course
    2. Studying
2. Try formulating it in different ways:
    1. If you study, then you will pass. (not the same)
    2. You will pass only if you study. (the same)

    The claim is that studying is necessary for passing.

    It is not saying that studying is sufficient!

Definitions

At least three broad types

1. Reportive
2. Stipulative
3. Normative

We should take care to evaluate them according to their type.

How precise we need to be about definitions depends on the context

Rule of thumb: the higher the stakes, the more precision is needed.

Sloppiness about definitions can lead to bad arguments, misunderstandings, confusion, etc.

Evaluating Definitions

A definition is too narrow if it excludes things it shouldn't.

e.g., "a student is someone enrolled at a university"'

- excludes high school students
- "being enrolled at university" is not a necessary condition for being a student (it's sufficient)

A definition is too broad if it includes things it shouldn't.

e.g., "a computer is an electronic device with a screen"

- it includes TV, GPS, phones
- neither "being an electronic device" nor "having a screen" are conditions. Are they necessary conditions?

A counter-example is an example, either real or fictional, that shows that a definition is too broad or too narrows.

Find one counter-example for each of the following proposed definitions:

- Dog: a four-legged mammal with a heart.
  - ✓ The definition of "dog"
- Car: a four-wheeled, gasoline-powered vehicle with doors.
  - ✓ The definition of "car"

Note: A proposed definition could be both too broad and too narrow, in different respects.

Ambiguity and Vagueness

A word or phrase is ambiguous when it has more than one meaning
(e.g. bank)

A word or phrase is vague when there's no precise cut-off point between when it applies and when it doesn't. (e.g. bald, rich, tall, heap, sleepy, and many, many more!)

Evaluating Arguments that Contain Such Words/Phrases

- Vagueness/ambiguity don't necessarily make an argument bad.

But we need to be careful …

The Fallacy of Equivocation

When an ambiguous word or expression is used in two different senses in an argument … but the argument appears to suggest otherwise, simply in order to get to its conclusion.

1. Man is the only rational creature.
2. No woman is a man.

.: 3. No woman is a rational creature. (from 1,2)

1. You want to be like Mike.
2. If you want to be like Mike, you should drink Gatorade.

.: 3. You should drink Gatorade. (from 1,2)

Merely pointing out that some word or phrase in an argument is vague is not typically a substantive criticism.

Consider (p.218):

1. Allowing people to have pornographic books and movies leads to violent behaviour.
2. We shouldn't allow things that lead to violent behavior.

.: 3. We shouldn't allow people to have pornographic books and movies.

A common objection: "Where do you draw the line?"

- Merely pointing out that the term "pornographic" is vague (which it is) is not a substantive criticism; it's an argument-stopper
- Notice how many other terms are vague as well!
- There are substantive issues to discuss with respect to this argument …

Some Common Mistakes in Reasoning (12 Fallacies)

1. The Fallacy of False Dichotomy

   Occurs when the premise(s) claim or assume that a choice between two alternatives is exhaustive or exclusive or both, when the choice is not.

   "You're either for us or you're against us"

"You're either a teacher, or else you're a student"

Such premises are not r/j/r to believe!

2. The Fallacy of Equivocation

When an ambiguous word or expression is used in two different senses in an argument … but the argument appears to suggest otherwise, simply in order to get to its conclusion.

3. The Slippery Slope Fallacy

This occurs when an argument claims or assumes that taking a particular step will inevitably lead to further, undesirable steps.
A typical form:

"Doing action A will lead to action B, which will lead to action C, which will certainly result in terrible consequence D. So we should not do A."

In the fallacy of false dichotomy and the slippery slope fallacy, the problem is that one or more premises are not r/j/r to believe.

Sometimes, however, even if a premise is reasonable to believe, it still is still illegitimate to use in an argument. The next few fallacies involve this …

4. The Fallacy of Hasty Generalization

When an argument concludes something about a group or set on the basis of an inadequate sample size.

"All the cafeteria food is terrible. I had a burger there once, and it made me queasy."

* Note: the point here is not that the premise cannot be r/j/r to believe: it's just that it doesn't provide adequate evidence for the conclusion.

5. The Fallacy of Begging the Question (Circular Reasoning)

Attempting to prove a conclusion by using that same conclusion as premise. (Sometimes the conclusion is worded differently when it is used as a premise, and sometimes it is implicit.)

"God exists. We *know* that God exists because the Bible says so, and we know that God wrote the Bible"

Ask yourself: would I accept the premise if I didn't already accept the conclusion?

Please note that the expression "begging the question" is used in a technical way here, and that its technical meaning differs from the ordinary meaning.

* Note: the point here is <u>not</u> that the premise in question cannot be r/j/r to believe: it's just that it doesn't provide good independent (non-circular) evidence for the conclusion.

* And note: strictly speaking, such arguments are valid.

6. <u>The Fallacy of Composition</u>

arguing or assuming that what is true of the parts must be true of the whole

<u>Examples</u>

"Every player on the Blue Jays is among the best in the league. Therefore, it must follow that the Blue Jays are among the best teams in the league."

"Each part of this new aircraft weighs less than 5 pounds; therefore the whole aircraft weighs less than 5 pounds."

* Caution: sometimes, what's true of parts *is* true of wholes.

7. <u>The Fallacy of Division</u>

arguing or assuming that what is true of the whole must be equally true for the parts

<u>Examples</u>

"Jane is a human being. Therefore, every cell in her body is a human being."

"Ryerson students study many different subjects, including statistics and hotel management. John goes to Ryerson. Therefore, John must study many different subjects, including statistics and hotel management."

* Caution: sometimes, what's true of wholes *is* true of parts.

8. <u>Appeal to Popularity</u>

Arguing that a claim must be true because it's a popular belief.

"Of course the war is unjustified! After all, everybody thinks so."

9. Appeal to Common Practice

Arguing that something should be done a certain way because it's commonly done that way.

"Nobody has pop quizzes at university. So, there shouldn't be any pop quizzes at university"

10. Appeal to Tradition

Arguing that a claim must be true because it's part of a tradition

"Obviously, God exists: after all, various religions have said so for thousands of years!"

11. Appeal to Ignorance

An argument which contains an inference like this:

"We don't know that *P* is true, therefore *P* is false"

"We don't know that *P* is false, therefore *P* is true"

"No one has shown that ghosts are real, so they must not exist"

"God must exist, since science hasn't shown otherwise"

12. Ad Hominem (to the person) Fallacy

Rejecting a claim by criticizing the person who makes it, rather than the claim itself.

Ex: "Smith says that the bus leaves at 10:00, but he's a cowardly environmentalist, so he must be wrong."

Types of Ad Hominem Fallacy

12a) Character — The premise merely attacks the person's character, instead of providing evidence for the conclusion.

12b) Circumstances — The premise merely points out something about the person's circumstances, instead of providing evidence for the conclusion.

"Jose says that the political system in Cuba is perfect. But he *has* to say so: he's a card-carrying communist! So you shouldn't believe what he says about politics."

The point is that many claims about a speaker's character or circumstances are quite irrelevant to whether the conclusion is true

12c) *Tu* Quoque The premise merely points out that the some claim is inconsistent with something else the speaker says or does, instead of providing evidence for the conclusion.

"Naomi wears expensive name-brand clothes. So everything she says about excessive consumerism is nonsense!"

"How can you tell me to not smoke pot? I know you used to smoke up when you were young! Nothing you say against pot can be right!"

The point is that while somebody may well be a *hypocrite*, this is generally irrelevant to whether what the person says is true

Quiz 1 (could be a,b or c idk)

Questions and Answers

Part I: True/False Questions

1. Statements that are offered in support of other statements are called premises. **T**
2. It's never rational to believe the conclusions of an argument that is presented with rhetorical power and literary merit. **F**
3. An inference is the process of reasoning from one or more premises to a conclusion, based on those premises. **T**
4. The following passage is an argument: "While Conservatives are always trying to decrease taxes, Liberals are always trying to raise them." **F**
5. The following is a declarative statement: "I don't know what day it is". **F**
6. According to the principal of proportional belief, the stronger the evidence one has for the falsity of a proposition, the more strongly one should disbelieve that proposition. **T**
7. When you consider any proposition, you have exactly two options: believe it or disbelieve it. **F**
8. The following passage is not an argument: "if housing prices continue to rise, more people will choose to rent apartments instead of buying houses". **T**
9. It's possible for two different statements to express the same proposition. **T**

   Two different statements in different languages: "Il neige" and "It is snowing" both express the same proposition (idea).

10. If a proposition is true, then it's always rational for you to believe that proposition. **F**

    A proposition might be true. However, if there is not evidence to support that the proposition is true, then it is not rational to believe that it is true

Part II: Multiple Choice Questions

1. An argument…
   a. Consists of a conclusion meant to support a premise
   b. Consists of statements that are meant to support a conclusion
   c. Is a heated dispute between people
   d. Cannot be analyzed systematically
2. Fallibilism is the view according to which…
   a. People often mishandle evidence and make mistakes in reasoning
   b. People sometimes mishandle evidence and make mistakes in reasoning
   c. A belief can be rational/justified/reasonable even though it is false
   d. Premises sometimes fail to support their conclusions
3. Which of the following is an argument?

   a. Unless Noah, is a bachelor, Noah is married
   b. Noah is a bachelor, so Noah is married
   c. Noah is definitely not a bachelor
   d. Either Noah is a bachelor, or Noah is not a bachelor
4. A realist is someone who believes that
   a. Most of our beliefs are unjustified
   b. All truths are relative to individuals
   c. We should not hide from difficult situations
   d. None of the above
5. A proposition is…
   a. A self-evident truth
   b. A reason offered in support of a conclusions
   c. The specific thought or idea that a statement expresses
   d. A special kind of statement used in an argument

Part III: Short Answer Questions

1. Explain the correspondence model of truth. Then give an example of a true proposition and an example of a false proposition, and explain how the correspondence model would account for each one. Then, clearly explain one drawback that this model is thought to have.

   Correspondence model of truth holds that for a proposition to be true, it must correspond with the facts of reality.

   True proposition: There is a desk in front of me.

   False proposition: There is a pink elephant running around the room.

   Drawbacks:

   We could be dreaming

   There's no way to check if our beliefs match up with reality (we are trapped in our senses).

2. Identify and describe three key ingredients that are necessary for propositional knowledge. In your answer, briefly explain why each one is necessary.

   Truth - You have to believe that there is such a thing as truth (at all).

   Belief - You have to believe that something is true.

   Justification - You have to have justification (evidence) to back up why you believe that something is true.

3. Explain this view about truth: subjective relativism. In your answer be sure to discuss one advantage and one disadvantage, and explain why these are thought to be advantages/disadvantages.

   Subjective relativism holds that truth depends on what an individual believes.

   Advantage and Explanation: Open-minded, tolerant, Lets everyone hold their own views

   Disadvantage and Explanation: Could cause conflict among individuals (tax payer example), Cannot realistically be applied to everything (math, empirical facts, etc. Why? We need to agree on some reality. Self-defeating : cannot be a relativist about relativism

Quiz 2

Questions and Answers

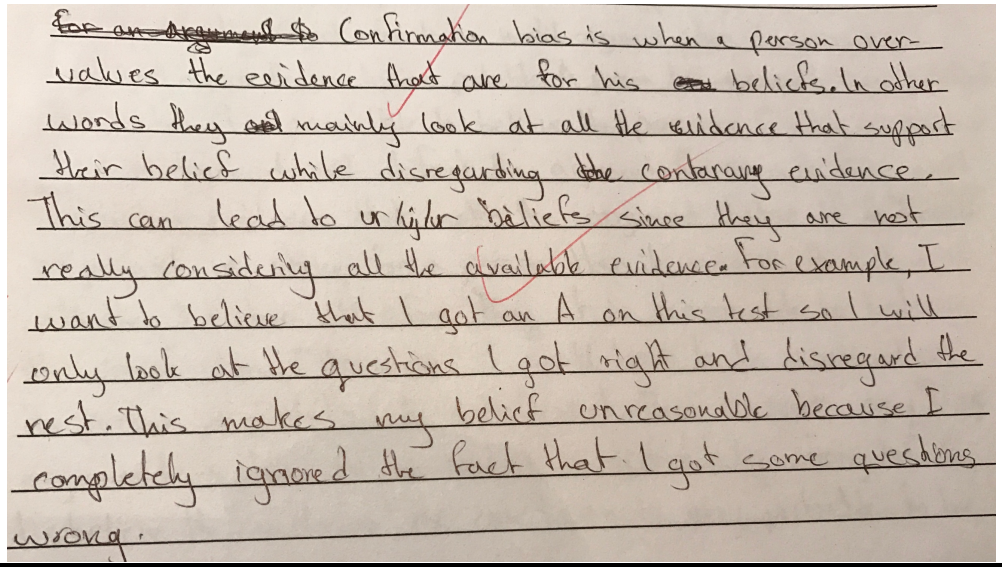
Part I: True/False Questions

1. In standard form, the conclusion of an argument is always placed at the top, above the premises. **F**
2. The statement "Donald Trump winds the election" is the consequent of this sentence: "Donald wins the election only if Hillary Clinton loses the election". **F** only if introduces consequent
3. If a deductive argument is valid, then all the premises must be reasonable to believe. **F**
4. The statement, "Lefty committed a crime and Righty committed a crime" is a disjunction. **F**
5. A biconditinoal is a statement that has this form: "P if and only if Q" **T**
6. If an argument is ill-formed, its conclusion may be true or false. **T**
7. If a deductive argument is strong, then the conclusion must be true. **F**
8. The conclusion of a cogent argument is guaranteed to be true. **F**
9. If an argument has a false premise, it must be invalid. **F**
10. If a deductive argument is weak, then it must be invalid. **F**

    Not a must, it's only one way it could be weak.

Part III: Short Answer Questions

1. first, clearly explain all three conditions that must be met in order for an argument to be inductively strong. then explain why it is unreasonable for you to disbelieve the conclusion of an argument that is inductively strong for you.
2. First, clearly explain both conditions that must be met in order for an argument to be deductively strong (for a particular person at a particular time). then explain why an argument can be deductively strong for one person (at one time) but not for another person(at the same time).
3. What is the validity test designed to do? how is it preformed?
4. Define confirmation bias and explain how it can lead to irrational beliefs.


Confirmation bias is when a person over-values the evidence that are for his beliefs. In other words they mainly look at all the evidence that support their belief while disregarding the contarary evidence. This can lead to unfair beliefs since they are not really considering all the available evidence. For example, I want to believe that I got an A on this test so I will only look at the questions I got right and disregard the rest. This makes my belief unreasonable because I completely ignored the fact that I got some questions wrong.

Quiz 3

Questions and Answers

Part I: True/False Questions

1. A single statement cannot be the conclusion of a sub argument. **F**
2. "All As are Bs" is a universal generalization. **T**
3. Any proposition, on any topic, expressed by any person, at any time, can be a premise. **T**
4. If an argument doesn't contain any conclusion-indicators, then it's ill-formed. **F**

   Conclusions indicators do not make an argument ill-formed. An ill-formed argument is one that is invalid and non-cogent, which has to do with the logical connection between premises and conclusion. It has nothing to do with the words used in the individual premises. (Also full points for saying that conclusion indicators do not affect the validity or cogency of an argument).

5. The following passage is not an argument: "Mr.Trudeau's tax proposal will not do enough to help low-income families". T

   This is not an argument, it's just a statement or proposition or opinion. To be an argument, it either would have to be a conclusion supported by premises, or a premise in support of a conclusion.

6. Valid arguments can have false premises. **T**

   Yes, valid arguments can have (actually) false premises. This is because validity has nothing to do with the truth value of the premises. Validity has to do with the logical connection between premises and conclusion, such that if the premises were imagined to be true, the conclusion would have to be true, too.

7. If an argument is deductively/inductively strong, then its premises are all true. **F**

   An argument that is strong must have premises that are reasonable to believe. But, they might not be actually true.

   You could go further by saying: the premises might be "true for me" because I have evidence that makes them reasonable to believe for me, but they might not be true for someone else who has different evidence.

8. If it's rational/justified/reasonable for you to believe all the premises of a cogent argument, then, to be a rational thinker you must also believe that argument's conclusion. **F**

Just because it is reasonable to believe all the premises of a cogent argument, it doesn't mean that you must believe the conclusion. You might have evidence that makes it reasonable to believe the premises, but might have independent evidence that makes it unreasonable to believe the conclusion (defeat).

9. It's never acceptable to change the wording of an argument when reconstructing it into standard form. **F**

   You can change the wording of an argument when putting into standard form, especially if the author used two different words to describe the same concept, and you use the principle of charity to correct that. This isn't twisting words, but rather using the Principle of Charity to clarify the author's argument.

10. Implicit premises are generally reasonable to believe. **F**

    Implicit premises are simply missing premises that you think the author intended, and that you add to strengthen the argument. They have nothing to do with being reasonable to believe or not.

Part II: Argument Reconstruction

Write it in standard form and state whether it's valid, cogent or ill-formed.

1. "Today is a lucky day. Why would I say that? Well, All sunny days are lucky days, and today is sunny" valid by universal modus ponens (do it on ur own tf)
2. "We're not fully in control of our actions, and here's why. If we are fully in control of our actions, then we are able to break the law of nature. But of course we are not able to break the law of nature!" valid by modus tollens (do it on ur own tf)
3. "It's likely that Anna has six legs, since she is an octopus and most octopuses have six legs." cogent
4. "There's a very good chance that Olaf is right-handed. That's because most right-handed people also have red hair, and after all, Olaf has red hair" ill-formed cuz it doesn't say most red-heads are right handed, only the other way around. Read it again and again till u see it.

Part III: Subarguments

Reconstruct and shit with justification.

1. "Either Team A or Team B will win the gold medal, since all the other teams have been eliminated from the competition. But team B will not win the gold medal, because it has an incompetent coach and its best players are injured and its back-up players aren't very good. So team A will win the gold medal."

   1. All the other teams have been eliminated from the competition.

   .: 2. Either Team A or Team B will win (from 1)

   3. Team B has an incompetent coach.

   4. Team B's best players are injured.

   5. Team B's backup players aren't very good.

   .: 6. Team B will not win the gold medal (from 3, 5)

   .: 7. Team A will win the gold medal (from 2,6 by Argument by Elimination)

Part IV: Short Answer Questions

1. What's an implicit premise?

   An implicit premise is a premise that the author did not explicitly say, but that you can logically assume was meant. It is important to consider the possibility of implicit premises when reconstructing an argument into standard form, because adding implicit premises can clarify the argument, and (sometimes) make it valid or cogent. The two specific rules we should follow when adding implicit premises are the Principle of Charity (F. 125), which means you add premises that is reasonable for the author to believe and makes the argument as strong and well-formed as possible, and the Principle of Faithfulness (F. 156), remains true to the author's intentions/doesn't twist the author's words.

2. If an argument contains one sub argument and suppose that the sub argument is invalid, would it still be possible for the main argument to be valid? Why or why not?

   If an argument contains a sub-argument that is invalid, the main argument can still be valid. This is because the structure of the sub-argument is considered separate, or independent, from the main argument. Though the main argument can be supported by the conclusion of the sub-argument, this conclusion acts as a premise in the main argument. It can help to make the main argument valid (meaning that, there is a logical connection between the supporting premises and the conclusion, such that if we

imagine the premises to be true, the conclusion of the main argument would have to be true, too).