Final

- ❏ Implicit Premise and Conclusions (indicators)
- ❏ Standard Form w Diagrams
- ❏ The 5 Types of Non Deductive arguments
  - ❏ Inductive Generalization
  - ❏ Statistical Syllogisms
  - ❏ Plausibility Argument
  - ❏ Causal Arguments
  - ❏ Arguments by Analogy
- ❏ Evaluating Valid Argument Proofs
- ❏ Venn Diagrams
- ❏ Fallacies
- ❏ Vagueness
- ❏ Worthy of your belief
- ❏ Plato related questions

Implicit Premise and Conclusions

Inference Indicators- premise indicators (ie. because, since, due to the fact, for, for the reason that...) and conclusion indicators (ie. therefore, thus, so, consequently, it follows that,...)

Simple Arguments- only has **one** inference; moving from a premise(s) to a conclusion; only **one** conclusion

Complex Arguments- at least **one** intermediate conclusion; at least **more than one** inference; at least **more than one** conclusion

Premise: A statement given in support of another statement; a claim put forth as a reason for a conclusion.

Conclusion: A statement that premises are meant to support; a claim meant to be supported by reasons offered in the argument.

Intermediate Conclusion-

1. Acts as a conclusion for what comes before (premises)
2. and a premise in a continuing chain of reason

Conditional Statements "If...then..."

Disjunctive Statements "Either...or..."

Enthymemes: arguments with missing aspects,arguments have implicit (or hidden) premise or implicit (or hidden) conclusions; not always stated within the argument

Premise indicators: are followed by a premise.

- Examples of premise indicator words: Because, since, in view of the fact, given that, for, for the reason that, or due to the fact that.
- "We should go back to Joe's Diner, because we had fun there last week." or ""We can expect Dad to be late, since he's always late when he stops at Canadian Tire."

Conclusion indicators: are followed by a conclusion.

- Examples of conclusion indicator words: Therefore, thus, so, consequently, it follows that, we can conclude that, ergo, or hence.
- "The quiz is tomorrow, so we should study." or ""I got sick last time we went there; therefore we shouldn't go back there."

Standard Form & Diagram

- **Independent premises** each lend some support to the conclusion, on their own.
- **Dependent premises** must be combined in order to support the conclusion.

#1 Simple

1. The only alternatives are dictatorship or anarchy
2. Both dictatorship and anarchy are terrible systems of government
3. Terrible systems of government are not viable

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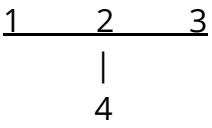
4. Democracy is the only viable system of government



#2 Simple

1. It's extremely hot in the summer
2. Neither of us reacts well to extreme heat
3. It's too expensive

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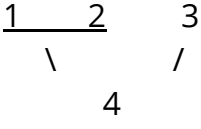
4. We shouldn't go to Australia on the holidays



Complex

1. Professors never stop splitting hairs
2. Splitting hairs is a real sign of being overly particular
3. Professors are overly particular 1,2
4. Overly particular people tend to be talkative

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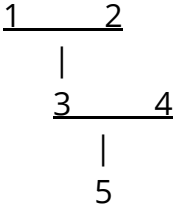
5. Professors tend to be talkative 3,4



Non Deductive arguments

Non Deductive Argument: an argument intended to provide probable (but not conclusive) support for its conclusion; The premises of non deductive argument are meant to make the conclusion probable or likely

- Nondeductive arguments can be described as successful or unsuccessful.
- an unsuccessful - when premise don't relate, support, or provide information to conclusion

1. Inductive Generalizations
    - start with premises about individual members of a group and reason to conclusions about the group as a whole
    - observe some members - draw generalization for all members
    - **Particular → General**
    - because of some members we make a general conclusion for all
    - allows us to make general claims, despite being able to actually observe every single member of a class or group in order to make a general statement that is probably true.
    - **Examples:**
        - "I've owned 2 Dell computers, and both sucked. I'm starting to think all Dell computers are crap."
        - "I got food poisoning the last time I went to that restaurant; now, I'm afraid to go back."
    - may also include: surveys and sample sizes

2. Statistical Syllogisms
    - Sometimes we have good, but incomplete, knowledge of some group of people or things and based on that, we reach a conclusion about some member of that group.
    - general → particular
    - **Examples:**
        - 'Canada's Parliament is overwhelmingly white and male. So, your MP is probably a white male.'
        - Eighty per cent of students at the university are residents of Ontario. Linda is a student at the university. Therefore, Linda is probably a resident of Ontario.

3. Plausibility Argument
    - case building argument
    - premises are meant to work together to build a case
    - **Examples:**
        - Jones had a strong motive to murder Smith.
        - Jones had an opportunity to murder Smith.

- The murder weapon had Jones' fingerprints on it.
- Jones was psychologically capable of killing Smith.
- Therefore, Jones murdered Smith.
- Conclusive proof reveals that Jones was in another country at the very time that Smith was murdered.

4. Causal Analysis

- A causal claim is an assertion about the cause of something.
- A *causal argument* justifies, or supports, such a claim.

Methods

1) Method of Agreement- ONE thing that was different

- If two or more occurrences of some phenomenon have only one relevant factor in common, that factor is likely the cause.

The Form of the **Method of Agreement**:

- If we're trying to explain effect 'E' . . .
  - Instance 1: Factors a, b, c are followed by E.
  - Instance 2: Factors a, c, d are followed by E.
  - Instance 3: Factors a and c are followed by E.
  - Instance 4: b and c are followed by E.
    - Therefore, factor c probably causes E.
    - Only one factor—namely, c—consistently accompanies the effect E.
    - Conclusion: c likely causes E.

Example: Imagine three people in your residence all feel sick one night.

- All ate at different restaurants; hung out with different people; worked out at different gyms . . .
- but all took sips from ONE bottle of water.
  - If that water-bottle is the one factor they all have in common . . .
    - then it's reasonable to conclude that that water-bottle was likely the cause of their illness.

2) Method of Difference- Something happened that changed to events

- The relevant factor that is present when the phenomenon occurs, and absent when it doesn't occur, is likely the cause.

The Form of the **Method of Difference**:

- Instance 1: Factors a, b, c are followed by E.
- Instance 2: Factors a, b are not followed by E.
- Therefore, factor c is probably the cause of E.

Example:

- Six players on the team are playing well; three others are not.
  - The ones *not* playing well missed a practice last week.

- If missing practice is the only relevant *difference*, then that's probably the cause.

3) **Joint Method of Agreement and Difference- 2 distinct groups, experiments**
   - Both the method of agreement and the method of difference combine the two previous reasoning patterns.

Examples:

- Imagine that dozens of people stop into a local bar after work as they usually do and that ten of them come down with an intestinal illness one hour after leaving the establishment. What caused them to become ill?

- We can apply the **Joint Method of Agreement and Difference** to this scenario. Say that among the ten patrons who become ill, the common factors are that they all drank from the same bottle of wine and they all had free tacos. So we reason that the likely cause is either the wine or the tacos. After further investigation, though, we find that other patrons who ate the tacos did not become ill. We conclude that the wine is likely the culprit.

4. **Method of Concomitant Variation- more A, increase B; less A, decreases B**
   - In many cases, relevant factors aren't merely present or absent during the occurrence of the phenomenon – they are closely correlated with the occurrences.

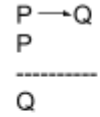
5. Arguments by Analogy

- An analogy is a comparison of two or more things that are alike in specific ways.
- **Examples:**
  - 'Animals, like humans, have nerves, a spinal cord, and a brain. So, like humans, animals must feel pain.'
  - 'Humans can move, do math, and fall in love. Robots can move, and do math. So, robots can fall in love.'
- Relevant Similarities and Relevant Dissimilarities

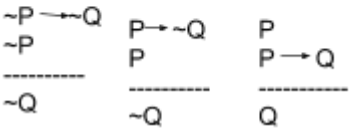
8 Valid Argument Forms and 2 Invalid Argument Forms

automatically when these forms occur argument is valid/invalid

1. **Modus Ponens (MP)**
    - If Spot barks, a burglar is in the house.
    - Spot is barking.
    - Therefore, a burglar is in the house.



- If p, then q
- p.
- Therefore q.



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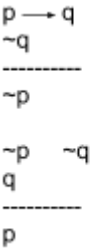
2. **Modus Tollens (MT)**
    - If you work in a bar, you're over 19.
    - You're not over 19.
    - So, you must not work in a bar.



- if p, then q
- not q
- Therefore not p.

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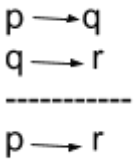
3. **Hypothetical Syllogism (HS)**
    - If Guy steals the money, he will go to jail.
    - If Huy goes to jail, is family will suffer.
    - Therefore, if Guy steals the money, his family will suffer.



- If p, then q
- if q, then r
- Therefore, if p then r.

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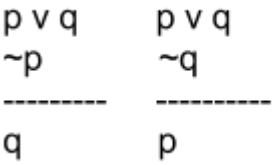
4. **Disjunctive Syllogism (DS)**
    - Either Ralph walked the dog or he stayed home.
    - Ralph did not walk the dog.
    - Therefore, he stayed home.



- either p or q
- not p
- Therefore, q.

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5. **Constructive Dilemma (CD)**
    - Either it is forecasted to rain tomorrow, or it is forecasted to rain today.

    - If it is forecasted to rain tomorrow, we will play the baseball game today.
    - If it is forecasted to rain today, we will play the baseball game tomorrow.
    - Therefore, either we will play the baseball game today or we will play it tomorrow.
- Either p or q
- If p then r
- If q then s
- Therefore, either r or s

p v q
p r
q → s
---
r v s

---

6. **Conjunction (Conj)**
    - The class is large.
    - The students are noisy.
    - Thus, the class is large and the students are noisy.
- p
- q
- Therefore, p and q

p q
q p
--- ---
p • q q • p

---

7. **Simplification (Syp)**
    - I am an optimist, and I am a fair individual.
    - Therefore, I am an optimist.
- p and q
- Therefore, p.

p • q p • q
--- ---
p q

---

8. **Addition (Add)**
    - It is raining.
    - Therefore, it is raining or it is sunny.
- p
- Therefore, p and q.

p
---
p v q

<u>2 Invalid Argument Forms</u>

1. **Denying the Antecedent**
    - If my car is out of gas, it will stop running.
    - My car is not out of gas.
    - Therefore, my car will not stop running.
- If p then q
- not p
- Therefore, not q

p → q
~ p

~ q

---

2. **Affirming the Consequent**
    - If my car is out of gas, it will stop running.
    - My car stopped running.
    - Therefore, my car is out of gas.

$p \rightarrow q$
q

P

- If p then q
- q
- Therefore, p.

PG 57

1) MP, valid 2) MT, valid 3) Denying the Antecedent, invalid 4) MP, valid 5) Affirming the Consequent, invalid 6) MT, valid 7) MT, valid 8) Affirming the Consequent, invalid 9) MP, valid 10)- 11)Affirming the Consequent, invalid 12)Denying the Antecedent, invalid	13)HS, valid 14)DS, valid 15)MP, valid 16)- 17)HS, valid 18)- 19)Add, valid 20)- 21)Conj, valid 22)- 23)CD, valid 24)MT, valid 25)Affirming Consequent, invalid

Fallacies

Fallacy Type	Description	Example
Appeal to Ignorance	arguing that a lack of evidence proves something	"No one has shown that ghosts aren't real, so they must be real."
Appeal to Inappropriate Authority	claim from someone who is not an expert	"My lawyer says that the new treatment for MS is no good. I guess she's right."
Appeal to General Belief	a claim must be true merely because a substantial number of people believe it	"Of course the war is justified. Everyone believed that it's justified."
Appeal to Popular Attitudes and Emotions	peer pressure **OR** belief that our group is the best	"Everyone thinks your views on politics are dumb. That should be proof enough that you are wrong" **OR** "We can't let these people move into this neighbourhood. They're not like us."
The Gambler's Fallacy	Thinking that previous events can influence the probabilities in the random event at hand.	
The False Cause Fallacy (post hoc):	Confusing cause with temporal order	"The rooster crowed, and then the sun came up. So the rooster made the sun come up."
The Fallacy of Hasty Generalizations	a conclusion is made about a whole group based on an inadequate sample of the group	"You shouldn't buy a Dell computer. They're awful. I bought one last year, and it has given me nothing but trouble."
The Fallacy of the False Dilemma	asserting that there are only two alternatives to consider in some	"Look, either you support the war, or you

	issue when there are actually more than two.	are a traitor to your country. You don't support the war. So you're a traitor."
The Fallacy of the Loaded Question	attempting to get an answer to a question that assumes the truth of an unproved assumption.	"Have you stopped beating your dog?"
The Fallacy of Begging the Question	the attempt to establish the conclusion of an argument by using that conclusion as a premise.	"Bungee jumping is dangerous. Therefore, it is unsafe."
The Slippery Slope Fallacy	arguing, without good reasons that taking a particular step will inevitably lead to a further, undesirable step	"If I give you an extension on your essay just because you had the flu, next thing you know people will want extensions because they have a hangover!"
The Fallacy of Against the Person	ejecting a claim by criticizing the person who makes it rather than the claim itself	"Jones has argued for a ban on government-sanctioned prayer in schools and at school-sponsored events. But he's a rabid atheist without morals of any kind. Anything he has to say on the issue is bound to be a distortion of the truth."
You too (tu quoque)	When an argument is put forth as a charge of hypocrisy	**A:** "You know that cheating on income taxes is wrong, right?" **B:** "How can you tell me that, you cheated on yours last year!"
The Pooh-Pooh Fallacy	a refusal to examine an argument seriously and evaluate it fairly	"We don't have to waste time dealing with Miss Jones' claims about women not being promoted to executive positions. She's just giving us more of the usual feminist wish-wash."

The Straw Man Fallacy	involves distorting, weakening, or oversimplifying someone's position so that it can be more easily attacked or refuted.	"The Opposition is opposed to the new military spending bill. Why does the NDP always want to slash everything to the bone? They want a pint-sized military that couldn't fight off a crazed band of terrorists, let alone a rogue nation!"
The Loaded Words Fallacy	Using highly charged words to assume the truth of a conclusion	"That man is a filthy, lying, sleaze-ball! Case closed, he's guilty!"
The Definitional Dodge Fallacy	consists of redefining a crucial term in a claim to avoid acknowledging a counter-example that would falsify the claim.	"A doctor without knowledge of philosophy has no right to call himself a doctor."
The Exception that Proves the Rule Fallacy	allows someone defending a claim to dodge a counter-example.	**A:** What I like about Robert Frost is the cleverness with which he makes all his poetry rhyme. **B:** But 'Mending Fences' doesn't rhyme. **A:** But that's the exception that proves my point!

Vagueness

- vague if not clear in context
- vagueness involves a terms lack of precisions
- vagueness as Fuzziness
    - terms that have blurry boundaries can be described as fuzzy
    - ie "I was making **minimum wage** last year?"
    - ie. the word "**rich**"; different levels and definitions

Word Ambiguity

- a word is ambiguous when (1) it has more than one meaning and (2) it is not obvious which one is intended in a situation in which the word is used
- **fallacy of equivocation:** occurs whenever a word has one meaning in one premise and another meaning in another premise
    - ie.
        - Man is the only rational animal
        - No woman is a man
        - Therefore, no woman is rational
    - Man is used for all humankind (1st premise) and as a gender (2nd premise)

Grammatical Ambiguity

- occurs when (1) a sentence has a grammatical structure allowing it to be understood in more than one way and (2) it is not clear from the context which understanding is the intended one,
    - Examples:
        1. Local high school dropouts cut in half.
            - could be literal
        2. Miners refuse to work after death
            - might mean their own death

Experience

- We accept a great many beliefs because they are based upon senses.
- Factors that can give us good reason to doubt the reliability of personal experience or our senses:

Impairment

- The following are reasons to doubt the trustworthiness of what we experience.
    - Situation: too dark, too bright, too hazy, or too noisy
    - Senses: sick, injured, tired, stressed, excited, drugged, distracted, disoriented, or drunk

Expectation

- We often perceive exactly what we expect, regardless of whether there's really anything there to detect.
    - We may *hear* scary sounds in the woods, just because we *expect to* hear them.
- Sometimes our beliefs conflict with background information

    - Sometimes, rather than two conflicting claims, we see a conflict between a claim and our own ‘background information’

Experts and Evidence

- Sometimes our beliefs conflict with background information
    - Sometimes, rather than two conflicting claims, we see a conflict between a claim and our own ‘background information’.
- ‘Background information’ includes:
    - Facts about everyday things.
        - ‘The sky is blue.’
    - Beliefs based on very good evidence.
        - ‘Cigarettes aren’t good for you.’
    - Justified claims that we would regard as ‘common sense’ or ‘common knowledge’.
        - ‘If you study, then you will do better on the quiz.’
- When an unsupported claim doesn’t conflict with what we already know, we are often justified in believing it because it comes from experts. In other words:
    - If an expert makes a claim, then we are generally justified in believing it . . .
    - Even if no evidence is given . . .
        - as long as it doesn’t conflict badly with background knowledge.

Plato

- **Metaphysics**: The name for the branch of philosophy that reflects upon fundamental reality and asks, what are its characteristics, what is the nature of reality?
- recognizes the existence of two worlds
- $$\frac{World\ of\ Forms\ (intelligible\ world)}{World\ of\ Sense\ Experience\ (visible\ world)}$$
- Visible World- is impoverished, imperfect, everything is constantly changing and growing
- Intelligible World- perfection, forms don't change, we comprehend the forms
- Republic he's trying to bring some perfection into this world

The Republic

The main concern: what is justice or the simple question why be good?

- Macro-level: Justice in the *Republic* relates to a correct ordering of society or the state that is fair and decent.
- Micro-level: Justice also relates to the quality within a person, the person who has a well-ordered soul.
- The central character in the *Republic* is Socrates.

Book 1

- 3 Definitions for Justice:
    1. **Cephalus** → speaking the truth and paying off any debts one may have, be honest
        - Sockertess finds it to be problematic, if you owe a friend their knife and they go crazy
    2. **Polemarchus** → harm unjust people (one's foes) and be just towards the good (one's friends)
        - Sockertees finds it problematic because your friends can become enemies and your enemies can become your friends, you may also be incorrect on your assumptions
    3. **Thrasymachus** → justice is simply a reflection of those who have power, do bad things when you know you'll get away with it

Book 2

Glaucon- Three categories of what makes something good

1. **Intrinsic Value** → valuable for its own sake and not merely as a means to something else
2. **Intrinsic/ Instrumental Value**→ Things which we value both for their own sake and for their consequences
3. **Instrumental Value** → it is valuable as a means to some other end.

Socrates answer to Adeimantus' Challenge

1. Healthy City
    a. fulfills our necessary and basic needs
    b. food, shelter, clothes
    c. the "true" city
2. Feverish or the Luxurious City
    a. desires⟶ infinite

Plato's Ideal City

1. Guardians (rulers) (5% of population)
   ↓
2. Auxiliaries (soldiers, warrior, bureaucrats, etc.) (20% of population)
   ↓
3. Workers (producers)(75% of population)

Believes belonging into these categories is one's destiny- Myth of Metal

Socrates defines justice along these lines:

- Each person must practice one of the pursuits in the city, the one for which he is naturally best suited.
- Further, justice is doing one's own work and not meddling with what is not one's own.

The Tripartite Soul

The soul:

Reason
↓
Spirit
↓
Appetite