Lecture 2 (September 12)

- Argument needs two statements
- Premise: statement given in support for another statement
    - Ex: “I got food poisoning the last 2 times I ate at that restaurant”
- Conclusion: statement that premises are meant to support; claim meant to be supported by reasons offered in argument
    - Ex: “I want to avoid the restaurant from here on in”
- Argument: group of statements in which some of them are intended to support another of them.
    - A set of claims, one of which is meant to be supported by others.
- Inferences are often embodied in certain indicator words
- Premise Indicators: because, since, due to the fact, given that
    - Ex: “We should go back to Joe’s Diner because we had fun there last week”
- Conclusion Indicators: therefore, thus, so, consequently, hence, ergo, this entails
    - Ex: “The quiz is tomorrow, so we should study”
- Enthymemes: argument with missing aspect
    - Ex: “You’re a student. So you must be short of cash”
    - Implied that being a student is expensive

Simple and Complex Argument

- A simple argument only has one interference and one conclusion

Lecture 3 (September 14)

Analyzing arguments

- Arguments in standard form and provide diagram
- First, detect any inference indicators if it is a conclusion
- Identify if the argument is simple or complex

Two Possibilities of Argument Structure

- Independent premises each lend some support to the conclusion, on their own
- Dependent premises must be combined in order to support the conclusion
    - Ex: (argument with independent premises) “Jake is a philosopher. And, Jake studies hard. Therefore, Jake is smart.”
    - In standard form: 1. Jake is a philosopher
      2. Jake studies hard
      3. Jake is smart

Combining Independent and Dependent Premises

- A weak or bad argument is still an argument
-

Lecture 4 (September 19)

1. ***Democracy is the only viable system of government*** **because the only alternatives are either dictatorship or anarchy. Both of these are terrible systems of government, and terrible systems are not viable. (simple argument)**

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

---

4. Democracy is the only viable system of government

2. ***I don't think we should go on holiday to Australia*** **because it is extremely hot in the summer, and neither of us reacts well to extreme heat. Also, it's too expensive. (simple)**

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

---

4. I don't think we should go on holiday to Australia

3. What do I think of shopping at the Bay? I'll tell you! They've got great prices, and they've got a good selection of men's clothes. So *the Bay is a great place to shop*. (simple)

1. They've got great prices
2. They've got a great selection of men's clothes

---

3. The Bay is a great place to shop

4. *Cole is up to no good*. He's been acting suspiciously for days, and he told Rachel he was going to steal something valuable. (simple)

1. Cole has been acting suspiciously for days
2. Cole told Rachel he was going to steal something valuable

---

3. Cole is up to no good

5. Because voters don't take time to understand the issues, it follows voters have become apathetic and lazy. Consequently, it can be said that voters are alienated from the political process. (complex)

1. Voters don't take time to understand the issues
2. Voters have become apathetic and lazy (1)
3. Voters are alienated from the political process (2)

6. It follows that professors are overly particular because they never stop splitting hairs, and splitting hairs is a real sign of being overly particular. And since overly particular people tend to talk a lot, we can conclude that professors tend to be talkative. (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 talk a lot
5. Professors tend to be talkative (3,4)

7. Sue's Spanish must be very good now. She spent a year in Mexico living and conversing with a Mexican family, and she has attained a level one in fluency in Spanish because she spent a year studying it at the University of Mexico. (simple)

1. Sue spent a year living in Mexico and conversing with a Mexican family
2. She has attained a level one in fluency in Spanish because she spent a year studying at the University of Mexico

---

3. Sue's Spanish must be very good now

10. The only valid reasons for dishonorably discharging someone from the Canadian Armed Forces are health problems and violations of military regulations. So, if Amal says that he was dishonorably discharged for simply being gay, he is lying or is mistaken. He is not lying. So he is mistaken. (complex)

1. The only valid reasons for dishonorably discharging someone from the canadian armed forces are health problems and violations of military regulations.
2. If Amal says he was dishonorably discharged for simply being gay, he is lying or mistaken. (1)
3. Amal is not lying.
4. Amal is mistaken. (2,3)

Lecture 5 (September 21)

8. As the saying goes, stealing from one's friends is a terrible crime. If you can't trust your friends, then who can you trust? Consider the following scenario involving three friends: Maggie, Jose, or Ling broke the window and stole the vase. Jose couldn't have done it because he was studying in his room and was observed the whole time. Maggie couldn't have done it because she was out of town at the time and has witnesses to prove it. So the thief had to be Ling. (simple)

1. Maggie, Jose, or Ling broke the window and stole the vase
2. Jose couldn't have done it because he was studying in his room and was observed the whole time.
3. Maggie couldn't have done it because she was out of town at the time and has witnesses to prove it.

---

4. The thief had to be Ling.

1-2-3
4

9. If the dog bit the mail carrier, there would have been a scar on her leg. And some witnesses said that they saw the scar. But in any case, the mail carrier didn't deny having a scar. So the dog probably bit the mail carrier. And if that's the case, the carrier has grounds for a lawsuit. Therefore, she has grounds for a lawsuit. (complex)

1. If the dog bit the mail carrier, there would have been a scar on her leg.
2. And some witnesses said that they saw the scar.
3. The mail carrier didn't deny having a scar.
4. The dog probably bit the mail carrier. (intermediate conclusion) (2,3)
5. If that's the case, the carrier has grounds for a lawsuit.
6. Therefore, she has grounds for a lawsuit.

1-2-3
4-5
6

1. **If an individual in a coma is no longer a person, then giving him a drug to kill him is not murder. Such an individual is in fact not a person. Therefore, giving him the drug is not murder. (simple)**

1. If an individual in a coma is no longer a person, then giving him a drug to kill him is not murder.
2. Such an individual is in fact not a person.

---

3. Therefore, giving him the drug is not murder.

1-2
3

2. Since Twitter is like an ongoing conversation, since Facebook allows you to share photos and keep track of people, and since smartphones allow you to contact people no matter where you are, social media allows you to keep in touch with people really well. Therefore, everyone should get more involved with social media. (complex)

1. Twitter is like an ongoing conversation
2. Facebook allows you to share photos and keep track of people
3. Smartphones allow you to contact people no matter where you are
4. Social media allows you to keep in touch with people really well (1,2,3)
5. Everyone should get more involved with social media

1-2-3
4
5

3. Judged sports should be excluded from the Olympics, since there is too much subjectivity in them, and subjectivity undermines the appearance of fairness, and it is crucial that Olympic sports be seen as fair. So, because boxing is a judged sport, it should be excluded from the Olympics. (complex)

1. There is too much subjectivity in them.
2. Subjectivity undermines the appearance of fairness.
3. It is crucial that Olympic sports be seen as fair.
4. Judged sports should be excluded from the Olympics. (1,2,3)
5. Boxing is a judged sport.
6. Boxing should be excluded from the Olympics. (5,4)

1-2-3
4-5
6

4. Rocks do not make good pets because they have no emotional lives, and they can hurt you if you drop them on your foot. Besides, a pet should have a heartbeat, and rocks do not have one. (simple)

1. They have no emotional lives
2. They can hurt you if you drop them on your foot
3. A pet should have a heartbeat
4. Rocks do not have a heartbeat

---

5. Rocks do not make good pets

1 2 3-4
5

5. If the Montreal Canadiens win the Stanley Cup, then I'll owe my dad some money. If I owe my dad some money, I'll need to go to the bank. So, if the Montreal Canadiens win the Stanley Cup, I'll need to go to the bank. (conditional)

1. If the Montreal Canadiens win the Stanley Cup, then I'll owe my dad some money.
2. If I owe my dad some money, I'll need to go to the bank.

---

3. If the Montreal Canadiens win the Stanley Cup, I'll need to go to the bank.

1-2
3

6. He was seen leaving the scene of the crime; he and the deceased had been arguing earlier in the day; he has a history of violence; he was the only person with access to a Glock .45, and that was the murder weapon. I think we can conclude that he is our prime suspect.

- He was seen leaving the scene of the crime.
- He and the deceased had been arguing earlier in the day.
- He has a history of violence.
- He was the only person with access to a Glock .45.
- That was the murder weapon.
- I think we can conclude that he is our prime suspect.

1 2 3 4-5
6

7. Henry will soon be very strong because he is starting a weightlifting program, and weight lifters are very strong. And anyone who is unusually strong can make the football team. So, Henry will make the team this year.

- He is starting a weightlifting program
- Weight lifters are very strong
- Henry will soon be very strong
- Anyone who is unusually strong can make the football team
- Henry will make the team this year

8. The time-consuming process known as "blind peer reviewing" has a long history. All the same, blind peer reviewing isn't perfect, and it does not guarantee that academic and research publications are right in any simple sense. Nonetheless, the process matters a great deal, because it imposes agreed-upon standards of expression and evidence on authors and researchers, and it subjects the work of these individuals to public peer scrutiny.

Lecture 6 (September 26)

Non Deductive arguments

Beagles are very generally very gentle…
- Unsuccessful

He was seen leaving the scene of the crime…
- Plausibility argument

A random survey of 300 nurses…
- Statistical syllogism

In every winter for the past 20 years…
- Successful

With respect to the upcoming federal election…
- Statistical syllogism
- Unsuccessful

Residents of the Sandy Hill area have been complaining…
- Inductive generalization
- Successful

I've heard squeaking sounds in the kitchen coming from…
- Plausibility
- Successful

Most newspaper reports…
- Inductive generalization
- Unsuccessful

Two hundred samples of water randomly taken…
- Inductive generalization

Anita conducts a survey to determine if Canadians are willing to support the arts…
- Inductive generalization
- Unsuccessful
- Self selected sample

Most people who grow up in small mining…
- Statistical syllogism
- Unsuccessful

Elections Canada shows that the vote share…

- Statistical syllogism
- General information
- Unsuccessful

In the past two years, major network news organization…

- Inductive generalization
- Unsuccessful

Recent statistics released from the Registrar's office…

- Statistical syllogism
- Successful

1. Most atheists are liberals, and George is an atheist. Thus, George is probably a liberal. Therefore, George is probably in favour of increased social benefits because most liberals are in favour of increased social benefits.

2. If one takes the example of the highly popular performance troupe known as Cirque du Soleil, then one certainly has to admit that acrobats are a fan favourite. Cirque du Soleil has grossed millions of dollars on the backs (and/or hands and feet) of its acrobats. As popular as acrobatic shows such as Cirque

Lecture 7

- Deductive argument: an argument intended to provide logically conclusive support for its conclusion
    - Either valid or invalid
- Final, definitive, undeniable support
- Guarantee their conclusion
- Ex: All philosophers are smart. Macdonald is a philosopher. So, Macdonald must be smart
- If the premises are true, then the conclusion must also be true
- Ex: Pigs have wings. Any animal with wings can fly. So, pigs can fly
    - False premises indicate the conclusion is false but the structure makes it a valid argument.
- A deductively valid argument with true premises is said to be sound
- Valid arguments:
    - False premises and a false conclusion
    - False premises and a true conclusion
    - True premises and a true conclusion
- Sentential Form
    - Conjunction (‘and’) = dot
    - Alex rode her bike, and John walked.
    - P dot q
- Disjunction Form
    - (‘or’) = v
    - P v q
- Negation
    - (‘not’) = ~
    - ~p
    - Alice did not ride her bike, it is not the case that alex rode her bike
- Conditional
    - (‘if-then’) =

- 8 Valid argument forms
    - 1. Modus ponens
        - If p then q
        - P
        - Therefore, q
    - 2. Modus tollens
        - If p then q
        - (a dot b) → c
        - ~ C
        - ----------
        - ~ (a dot b)

- 3. Hypothetical Syllogism
  - If p, then q
  - If q, then r
  - Therefore, if p, then r
  - Ex: if guy steals the money, then he will go to jail. If guy goes to jail, then his family will suffer. Therefore, if guy steals money, then his family will suffer.
  - P → q
  - Q → r
  - ---------
  - P → r
- 4. Disjunctive Syllogism
  - Ex: Either Ralph walked the dog or he stayed home. Ralph did not walk the dog. Therefore, he stayed home
  - Pvq
  - ~p
  - -----
  - Q
- Constructive dilemma
  - Pvq
  - P → r
  - Q → s
  - ---------
  - R v s
- Conjunction
  - P
  - Q
  - ----
  - P dot q
  - Ex: the class is large. The students are noisy. Thus, the class is large and the students are noisy.
- Simplification
  - P dot q
  - ----------
  - P
  - I am an optimist, and I am a fair individual. Therefore, I am an optimist.
- Addition
  - P
  - ---
  - P v q

- 2 Invalid Arguments

- Denying the antecedent
    - Ex: if my car is out of gas, then it will stop running. My car is not out of gas. Therefore, my car will not stop running
    - P → q
    - ~ p
    - ---------
    - ~ q
    - P is the antecedent

- Affirming the consequent
    - Ex: If my car is out of gas, then it will stop running. My car stopped running. Therefore, my car is out of gas.
    - The premises don't guarantee the conclusion

    - P → q
    - Q
    - -------
    - P

Lecture 8 (October 10)

- EX:
    - ~~1. E → A → B~~
    - ~~2. A E~~
    - ~~3. A~~ ---------- 2 simp
    - ~~4. E~~ ---------- 2 simp
    - ~~5. A → B~~ ---------- 1, 4 MD
    - 6. B ---------- 3,5 MD
- Ex: two ways it can be done
    - 1. M → C
    - 2. C → B
    - 3. ~B
    - 4.
    - 5. ~M
    - 1. M → C
    - 2.

Lecture 11 (October 19)

- A causal argument justifies, or supports, such a causal claim
- John Stuart Mill (1806-1873) devised methods for evaluating causal arguments
    - Common sense methods

- Method of agreement
    - If two or more occurrences of some vent or phenomenon, have only one relative factor in common, then that factor is likely the cause
    - Involves comparing situations in which the same kind of event occurs
    - 1. Imagine three people in your residence feel sick one night
      2. They ate at different restaurants but all drank from the same water bottle
      3. The common factor is the water bottle
      4. The water bottle is the cause of their sickness

- Method of difference
    - Relevant factor that is present when the event or phenomenon occurs, and absent when it does not occur, is likely the cause
    - Involves comparing situations in which an event of interest occurs with similar situations in which it does not
    - Instance 1: factors a, b, c are followed by E
    - Instance 2: factors a, b are not followed by E
    - Instance 3:
- Joint method of agreement and difference
    - Both methods combine the two previous reasoning patterns
    - Compare cases in which an event of interest occurs with ones in which it does not occur. The cause of the event will be the only factor present in each case in which the event occurs and absent in each case in which the event does not occur.
- Method of concomitant variation
    - Involves varying a factor and determining whether a change in it is accompanied by variation in some other factor that interests us
    - Instance 1: when P increases in a population, event E occurs more often
    - Instance 2: when P decreases in a population, event E occurs less often

Examples:

1. - Only common factor is that the children stayed in the same ward
   - Method of agreement

2. - the more education one has, the higher the salary
   - method of ?

3. - method of difference
   - strong argument
4. - ?

5. - method of difference
   - strong argument

6. - method of concomitant variation
   - strong
   - correlation between grades and attendance

7. - joint method of agreement and difference
   - two distinct groups; twin that receives placebo and twin that receives calcium

8. - method of difference
   - weak
   - march break may be another causal factor

9. - method of concomitant variation
   - strong

10. - method of difference
    - strong

11. - false cause fallacy

12. - method of agreement
    - lobster is the cause
    - strong

13. - method of concomitant variation
    - strong

14. - method of difference

15. - method of agreement
    - common element is the beef tacos from the same caterer

16. - method of concomitant variation

<u>Nov 2 ,2017 (Fallacies cont'd)</u>

- **Genetic fallacy:** arguing that a claim is true or false solely because of its origin

- 6. **Appeal to ignorance**: arguing that a lack of evidence proves something

    - In one type of this fallacy the problem arises by thinking that a claim must be true simply because it hasn't been shown to be false
    - Ex: "no one has shown that ghosts aren't real, so they must be real"
- 7. When a claim comes from someone deemed to be an expert who in fact is not an expert, we commit the fallacy known as the **appeal to inappropriate authority**
    - Because someone is an expert in one field does not mean he/she is an expert in any other field
    - Ex: My lawyer says that the new treatment for MS is no good. I guess she's right.
- 8. **The fallacy of appeal to general belief**: arguing that a claim must be true merely because a substantial number of people believe it
    - Ex: of course the war is justified. Everyone believed that it's justified
    - These arguments are fallacious because they assume that a claim it's true merely because a great number of people believe it
- 9. **The fallacy of appeal to popular attitudes and emotions**:
    - Peer pressure: pressure, from one's peers, to believe or do the things the group does
    - Ex: all your friends think your views on politics are ridiculous. That should be able to prove you wrong.
- 10. **The gambler's fallacy**
    - Thinking that previous events can influence the probabilities in the random event at hand
- 11. **The false cause fallacy (post hoc)**: confusing cause with temporal order
    - Very common logical fallacy
    - Causes do precede their effects
    - Ex: The rooster crowed and then the sun came up. So, the rooster made the sun come up
- 12. **The fallacy of the hasty generalization**
    - When a conclusion is made about a whole group based on an inadequate sample of the group
    - Ex: you shouldn't buy a Dell computer. They're awful. I bought one last year and it has given me nothing but trouble
- 13. **The fallacy of the false dilemma:** asserting that there are only two alternatives to consider in some issue when there are actually more than two
    - Ex: "look, either you support the war, or you are a traitor to your country. You don't support the war. So, you're a traitor"
    - If you are presented with an 'either/or' statement and you can think up more possibilities than just two, then you may be looking at a false dilemma.

- 14. **The fallacy of the loaded question**: consists of attempting to get an answer to a question that assumes the truth of an unproved assumption
    - Ex: have you stopped eating your dog? Are you really thinking about cheating on your loved one?

- 15. **The fallacy of begging the question** (or arguing in a circle): the attempt to establish the conclusion of an argument by using that conclusion as a premise
    - Ex: Bungee jumping is dangerous. Therefore, it is unsafe.
    - Problem: the premise and the conclusion say the same thing
    - Ex: he's in jail. And innocent people don't go to jail. So, of course he is guilty!
- 16. **The slippery slope fallacy**: arguing, without good reasons that taking a particular step will inevitably lead to a further, undesirable steps
    - Ex: 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!
- 17. **The fallacy of against the person:** rejecting a claim by criticizing the person who makes it rather than the claim itself
    - Ex: We should reject Chen's argument for life on other planets. He dabbles in the paranormal
- 18. **You too (tu quoque)**: when an argument is put forth as a charge of hypocrisy
- 19. **The pooh-pooh fallacy**: involves a refusal to examine an argument seriously and evaluate it fairly
- 20. **The straw man fallacy**: involves distorting, weakening, or oversimplifying someone's position so that it can be more easily attacked or refuted.
- 21. **The loaded words fallacy**: using highly charged words to assume the truth of a conclusion
    - Ex: that man is a filthy, lying, sleazeball! Case closed, he's guilty!
- 22. The definitional dodge fallacy: consists of redefining a crucial term in a claim to avoid acknowledging a counter-example that would falsify the claim
    - Ex: a doctor without the knowledge of philosophy has no right to call himself a doctor.

Exercise:

1. False cause fallacy
2. Appeal to general belief
3. Appeal to
4. Hasty generalization
5. Gambler's fallacy
6. Appeal to popular attitudes and emotions
7. Hasty generalization
8. Appeal to popular attitudes and emotions/appeal to general belief
9. Appeal to inappropriate authority
10. False cause fallacy

Exercise:

1. Fallacy of begging the question
2. Slippery slope

3. False dilemma
4. Loaded question
5. Begging the question
6. Slippery slope

Exercise:

1. Pooh pooh fallacy
2. ?
3. Straw man
4. Definitional dodge
5. Loaded words
6. You too

November 7, 2017 (RCT13)

Exercise:

1. Gambler's fallacy
2. Against the person, loaded words
3. Begging the question
4. Fallacy of division
5. Against the person
6. Appeal to general belief
7. False cause fallacy
8. Hasty generalization
9. Genetic fallacy
10. False dilemma
11. Appeal to ignorance
12. Inappropriate authority
13. Gambler's fallacy
14. Pooh pooh fallacy
15. You too fallacy
16. Appeal to popular attitudes and emotions
17. Slippery slope
18. Appeal to inappropriate authority
19. Loaded words
20. You too fallacy
21. Definitional dodge
22. Genetic fallacy
23. Appeal to inappropriate authority
24. Faulty analogy
25. Appeal to ignorance

26. Appeal to popular attitudes and emotions
27. Fallacy of composition
28. False cause fallacy
29. Straw man
30. Pooh pooh fallacy
31. Begging the question
32. Slippery slope
33. Hasty generalization
34. Against the person
35. Appeal to ignorance
36. You too fallacy
37. Faulty analogy
38. Straw man
39. Red herring fallacy
40. Begging the question
41. Loaded question
42. Loaded words
43. False cause fallacy
44. You too fallacy
45. Appeal to general belief
46. Gambler's fallacy
47. Slippery slope
48. False cause fallacy
49. Straw man
50. Fallacy of composition
51. Hasty generalization
52. Red herring fallacy

November 21, 2017

- Vagueness as fuzziness
    - Terms that have blurry boundaries can be described as fuzzy

December 5, 2017

-