
ANSWER KEY

for

**Critical Thinking,
Logic, and Argument
(2024)**

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Chapter 2

Exercise Answers

Part I. Identifying Statements

For each of the following, identify whether the sentence is making a statement. If it is a statement, is it the kind that makes a claim that can be true or false?

1. It is nine o'clock.

A: Makes a statement/claim

2. What time is it?

A: Does not make a statement (question)

3. Please come to dinner at seven.

A: Does not make a statement (request)

4. I hate you.

A: Makes a statement (claim can be true or false)

5. Tell me when you can come to dinner.

A: Does not make a statement (request)

6. Either Rome is the capital of Italy, or it isn't.

A: Makes a claim/statement (disjunction of two statements)

7. The Pope is an old man.

A: Makes a statement (claim can be true or false)

8. Pay attention, you lazy lout!

A: Does not make a claim (it's an order) (order presupposes the truth of the claim "you are a lazy lout!")

9. Hippopotami are ferocious.

A: Makes a statement/claim

Part II. Identifying Arguments

Determine whether these are arguments. If they are arguments, try to identify the conclusion from the premises.

1. God can perform miracles but not contradictions—not because his power is limited, but because contradictions are not genuine possibilities.

A: Makes an argument. Conclusion is: "God can perform miracles but not contradictions"

2. The moral law demands that we pursue, and ultimately attain, moral perfection. But we can't reasonably expect to reach moral perfection in this life.

A: This is not an argument, it is incomplete. It is two statements, but they are not combined to create any conclusion. If the argument had a conclusion, it could be: Therefore, we must postulate or suppose that there is another life in which this demand of the moral law can be met.

3. I read a book that was full of errors. I think I will call the company to tell them about the errors.

A: This is not an argument. It is a description of a person's plan.

4. Pain is pain wherever it occurs. If your neighbour causing you pain is wrong because the pain hurts and hurting is bad, then the pain a dog feels when you mistreat it is wrong as well.

A: This is an argument. "Pain is pain wherever it occurs" is the premise because it provides support for the analogy between our pain and a dog's pain.

5. Martha bought vodka, and Frank bought wieners. Between them, they bought vodka and wieners.

A: This is an argument. The conclusion is “Between them, they bought vodka and wieners” because it is a derivation by conjunction (putting them together).

6. No scientific hypothesis can be conclusively confirmed because no evidence we could ever find could rule out the possibility of contrary evidence in the future.

A: This is an argument. The conclusion is: “No scientific hypothesis can be conclusively confirmed.”

7. I followed the directions when cooking tortellini, and it worked for me.

A: This is not an argument. It directly reports experience and doesn't try to convince.

Chapter 3

Exercise Answers

Part I. Standard Form Practice

Here are a number of informally stated arguments. Identify the conclusion of each and put the argument in standard form.

1. “Many that live deserve death. And some that die deserve life. Can you give it to them? Then do not be so eager to deal out death in judgment. For even the very wise cannot see all ends” (Gandalf in J. R.R. Tolkien’s *The Fellowship of the Ring*, 1954).

Many that live deserve death.

Some that die deserve life.

Even the wise cannot see all ends

Do not be so eager to deal out death in judgement.

2. The kids said they were hungry, so Stella took them to Burger King.

The kids said they were hungry

Stella took them to Burger King

3. Mary isn’t answering the phone, and she always answers if she can. So either she isn’t home or something is wrong.

Mary isn’t answer the phone

She always answers if she can

So either she isn’t home or something is wrong

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4. A square circle must be logically impossible. God can do anything that is logically possible, but God can't make a square circle.

God can do anything that isn't logically possible
God can't make a square circle

A square circle must be logically impossible

5. The conservatives won't win the election because they won't have enough support in Ontario, and so they won't get enough seats to form the government.

The conservatives won't get enough support in Ontario

The conservatives won't win the election

6. Shanghai is the size of New York, so it is much bigger than Saskatoon.

Shanghai is the size of New York

Shanghai is much bigger than Saskatoon

7. If Dr. Shipley is elected as president of our club, we will have the first woman president in our history.

Note: This question has an important suppressed premise "Dr. Shipley is a woman." Otherwise, it is just a statement.

If Dr. Shipley is elected as president of our club, we will have the first woman president.

Dr. Shipley is a woman

Therefore, if Dr. Shipley is elected, we will have the first woman president.

8. People don't trust the Liberals. This means that Stéphane Dion will probably lose the election because people just won't vote for a leader they don't trust.

People don't trust the Liberals

People just won't vote for a leader they don't trust

Dion will probably lose the election

Part II. Identifying Deductive Patterns

All these arguments are examples of the patterns we have seen in this section. Identify the pattern of each argument, put them in standard form, and explain whether they are valid or invalid.

1. The eggs are spoiled because they are six months old, and if eggs are six months old, they are spoiled.

If eggs are six months old, they are spoiled

These eggs are six months old

The eggs are spoiled

VALID: Modus ponens. Valid because the second premise triggers the consequent of the first premise guaranteeing the conclusion.

2. If Ottawa is in Manitoba, then it is near Brandon. Ottawa isn't in Manitoba because it isn't near Brandon.

If Ottawa is in Manitoba, then it is near Brandon

Ottawa isn't near Brandon

Ottawa isn't in Manitoba

VALID: Modus Tollens. Valid because the second premise states that the consequent of the first premise doesn't occur, which allows us to conclude that the antecedent doesn't either (the conclusion).

3. If Ottawa is near Brandon, then it is in Manitoba. Ottawa isn't near Brandon, so it isn't in Manitoba.

If Ottawa is near Brandon, then it is in Manitoba.

Ottawa isn't near Brandon

So, Ottawa isn't in Manitoba

INVALID: Denying the antecedent. The consequent of the first premise is not triggered one way or the other by the second premise, so you can't conclude that Ottawa isn't in Manitoba.

4. The Senators either play in Ottawa or in Montreal. They must play in Ottawa because they don't play in Montreal.

The Senators either play in Ottawa or Montreal
They don't play in Montreal

They must play in Ottawa

VALID: Disjunctive Syllogism. The first premise requires that one or the other claim(disjunct) is true. The second premise says that the second statement (the right disjunct) is false, so the other option (the left disjunct) must be true.

5. If eggs are six months old, they are spoiled, and the eggs are spoiled, so they must be six months old.

If the eggs are six months old, they are spoiled
The eggs are spoiled

They must be six months old

INVALID: Affirming the Consequent. The eggs could be spoiled for another reason. The fact they are spoiled doesn't necessitate that they are six months old.

6. If you are tall, you can reach the cookies. You can eat some if you can reach them. So, if you are tall, you can eat some cookies.

If you are tall, you can reach cookies
If you can reach them, then you can eat some

If you are tall, you can eat some cookies.

VALID: Hypothetical Syllogism. The second premise needs to be rewritten because the "if" is in the middle of the sentence. An "if" is always glued to the information to the right of it (unless in the case of "only if") so this gets translated to "if you can reach them, then you can eat some." Hypothetical syllogism is valid because if both the first and second premise are true, the conclusion must be. The conclusion combines the premises and cuts out the "middle term" of reaching cookies.

7. In Vancouver, either it will rain or it just rained. You will get wet if it is going to rain. If it just rained, then you are wet. So in Vancouver, either you are wet or you will be.

In Vancouver, either it will rain or it just rained.

If it rains, you will get wet (Rearrange based on the “if”)

If it just rained, then you are wet.

So, in Vancouver, either you are wet or you will be.

VALID: Constructive Dilemma. The first premise is a disjunction of the two antecedents in premises two and three. The conclusion is the disjunction of the consequents of premises two and three.

Chapter 4

Exercise Answers

Part II. Validity True and False

1. No sound argument has false premises. **True**
2. If an argument has true premises and a false conclusion, then it is invalid. **True**
3. Every valid argument has a true conclusion. **False**
4. If an argument has a counter-example, it is invalid. **True**
5. Some unsound arguments have true premises. **True.** *It is possible to for an argument to have true premises but be invalid, meaning it is not a candidate for soundness.*
6. No valid argument has false conclusions. **False.** *It is possible to have a false conclusion and be valid, it would just require that the premises were not true. Validity is there's no situation in which the premises are true and the conclusion false. In this case, that wouldn't be true, making the argument valid.*
7. Some invalid arguments have true premises. **True**
8. Every sound argument has a true conclusion. **True**
9. No sound argument has a counter-example. **True**
10. All valid arguments have true premises. **False**
11. If an argument has false premises, it cannot be sound. **True**

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12. No valid argument has a counter-example. **True**
13. All unsound arguments have false premises. **False.** *They could be false because it is unsound if it is invalid.*

Chapter 5

Exercise Answers

Part I. Classification Practice

Evaluate these classification schemes. Are they exhaustive, exclusive, clear, and adequate to the task? If so, say why. If not, explain why.

1. (Toys) Very small things go on the top shelf. Large stuffed animals go in the box. The books go on the middle shelf and everything else goes in the closet.

A: This classification scheme is exhaustive because everything has somewhere to go. It is also exclusive because there doesn't seem to be any overlap between the categories. I think it fails however because we have to think about what the task is. If the task is organizing in classifying items so that they each belong in a category that makes sense to them then we're really going to have trouble with the grab bag in the closet it's a nice way of making sure that everything has somewhere to go but it doesn't help us with our task of organizing and knowing where everything is in the room

2. (Marble collection) multi-coloured solids, the clear coloured, the clear colourless with swirls inside, and the clear colourless without swirls inside.

A: Scheme = multi-coloured solids; clear coloured, clear colourless with swirls inside and clear colourless without swirls. The distinctions are **clear** and **exclusive**; whether or not the scheme is exhaustive depends on what kind of solids you have – there is no category for single coloured

solids so if you have any single coloured solids then the scheme is not exhaustive. as a taxonomy of marbles it is therefore **inadequate**.

3. Big animals, scary animals, smelly animals, animals named George.

A: The scheme is not exhaustive because there are animals outside of what are listed for example very small animals. It's also not exclusive because a big animal can also be a scary animal. It's also not exclusive because George could be smelly scary and big. It's also not adequate to any kind of task what kind of task could we imagine that classifying animals in this way would serve and even if we could why would it make sense that some animals are classified by size and smell whereas other animals are classified by a name indicated by human beings using language

4. Friends (be nice to them), people who can hurt you (be nice to them), everyone else (who cares?)

A: Scheme = friends, people who can hurt you, everyone else. The scheme is **exhaustive**, since the "everyone else" category guarantees no one is left out. The scheme is **not exclusive**, since a person could both be a friend and could hurt you. It is **not particularly clear** since it is not obvious how you know whether a person fits in any category. It is **overly simplistic (and so not adequate)** for the task of determining how to treat others.

5. My mom, my brothers and sisters, my parents, my friends, the people I hate, everyone else.

A: This classification scheme seems to be organizing the people in someone's life--we have friends, we have family, we have people we don't like and then there's a bunch of people that we don't know. This might be adequate to the task of kind of giving broad strokes on a person's relationships in the world. It doesn't seem to be exclusive in the sense that the person has listed their mom but then also listed their parents so unless they have special ways of understanding those terms mom is usually a parent so this would **fail to be exclusive**. It might also fail to be exclusive if a person hates their brother or sister or parent. It is exhaustive in the sense that it looks at everyone who you could possibly be in a relationship with.

6. (Kinds of animals) Pets, vermin, game, work animals, food animals.

A: This scheme is **not exhaustive** since there may be animals in no category. It is **unclear** whether game and food animals are distinct (if “food animals” means “domestic animals raised for food” and “game” means “wild animals hunted for food” then they are distinct). This scheme is nevertheless **useful descriptively** since it reflects distinct ways that humans treat animals with which they have dealings.

7. (Pre-season list for the coach) Last year’s returning players, kids with attitudes, losers, kids who are promising but need more skills, kids I can’t tell about yet.

A: The scheme is **neither exhaustive nor exclusive**. It is not exhaustive since there may be players who fit in no category (example: new players with great skills); it is not exclusive (example: a returning player could fit in other categories as well).

Chapter 6

Exercise Answers

Evaluating Definitions

Here is a list of one-liner definitions; imagine that they are in a small pocket dictionary. Trying to be charitable, evaluate these definitions. Are they adequate, or are they too broad, too narrow, vague or obscure, circular, negative, or slanted?

1. The Conservative Party is a political organization of patriotic, civic-minded citizens dedicated to preserving the cherished freedoms of all Canadians.
A. Slanted (positive): It is good to be “patriotic” or “civic-minded.” “Cherished freedoms”
2. A kite is a toy consisting of a light frame, with paper or other thin material stretched upon it, to be flown in a strong wind by means of a string attached and with a tail to balance it.
A. Narrow: overly specific, might not have a tail, could have more than one string
3. “Democracy” is not a feudal system.
A. Negative: tells us what it is not, not what it is.
4. “Postmodern” means a chaotic and confusing mishmash of images and references that leaves readers and viewers longing for the days of a good, well-told story.
A. Slanted (negative): Not neutral to say something is “chaotic” or a “mishmash”

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5. An oar is a stout pole shaped into a wide and flat blade at one end that is held free hand and used to propel a boat through the water.

A. Oar: Adequate

6. A poem is a rhymed composition in verse.

A. Narrow: Not all poems rhyme

7. “Rectangle” means a two-dimensional figure with four sides.

A. Too broad: includes squares, rhombus, trapezoids

8. A programmer is one who applies model C45D to seven-second ratios.

A. Narrow: programmers do more. Vague/obscure: Hard to understand

9. Life is what you make of it.

A. Vague/obscure: Doesn't tell us anything

Chapter 7

Exercise Answers

Part I. Arguments from Definition

Place these definitional arguments in standard form. Make the implicit information explicit. Evaluate the definition and say why the argument is or is not deductively valid.

1. Mammals have fur, therefore otters have fur.

Mammals have fur
Otters are mammals

Otters have fur

VALID: If the premises are true, the conclusion must also be true.

2. Democracy is when power is held by the people. The United States is a democracy.

Democracy is when power is held by the people
In the United States, power is held by the people

The United States is a democracy

VALID: If the premises are true, the conclusion must also be true.

3. This is a smartphone, therefore it connects to the internet.

This is a smartphone
Smartphones connect to the internet

This phone connects to the internet

VALID

4. Google tracks your browsing, therefore there is a record of your browsing.

Google tracks your browsing
Tracking is keeping a record

There is a record of your browsing

VALID (We need to assume “keeping” is still current)

5. This book is in the library, therefore it is a published book.

The library only carries published books
This book is in the library

This book is a published book

VALID

Part II. Enthymeme Practice

Place these arguments in standard form. If they are enthymemes, then make the argument explicit by adding the missing premise(s).

1. Bill will be late for dinner; he stopped for a pint with friends after work.

When Bill stops for a pint, he is late for dinner
He stopped for a pint

Bill will be late for dinner

2. Mary didn't study for the test tomorrow; I guess she is going to fail.

If you don't study, you (anyone) will fail

Mary didn't study for the test tomorrow

Mary is going to fail

3. Death cannot be the final end; it wouldn't be fair.

Only fair things happen

It wouldn't be fair if death was the end

Death cannot be the end

4. I'm sorry I cannot sell you any beer. I am not permitted to sell to underage kids.

I cannot sell beer to underage kids

You are underage

I cannot sell you any beer

5. Mary went to Burger King, so she must have been hungry.

Mary went to Burger King

Hungry people go to Burger King **OR** Mary only goes to
Burger King when she is hungry

So, she was hungry

6. Boxing should be banned in Canada because it is dangerous.

Boxing is dangerous

Anything dangerous should be banned

Boxing should be banned

7. If today is Tuesday, either Eric is in class or he is sick. It is Tuesday, so he must be sick.

If today is Tuesday, Either Eric is in class or he is sick

It is Tuesday

Eric is not in class

Eric must be sick

8. Don't ever buy a Taurus. It's a Ford!

Taurus (It) is a Ford

Fords are bad cars

Don't buy bad cars

Don't buy a Taurus

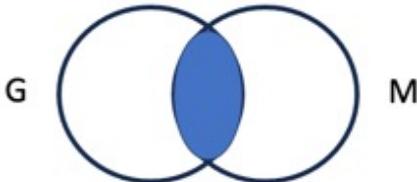
Chapter 9

Exercise Answers

Identifying the Form of Categorical Statements

For each of the following statements, identify the form (A, E, I, or O) of each of the following statements. Choose a letter to identify each subject and predicate term and rewrite the statement in categorical form. Draw a Venn diagram to map the statement:

1. The gods have no mercy.

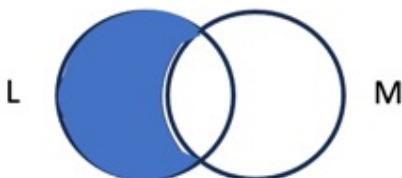


E: No Gods are Mercy having beings. (If this only means “some gods” it is O: Some Gods are not merciful beings.)

G: Gods

M: Mercy having beings

2. Lead is malleable.



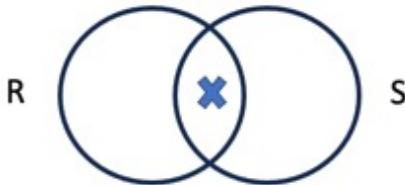
A: All Lead is Malleable
L: Lead
M: Malleable

3. Squares are always rectangles.



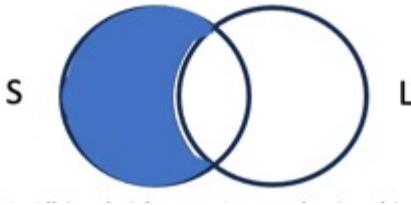
A: All squares are Rectangles
S: Squares
R: Rectangles

4. Rectangles are sometimes squares.



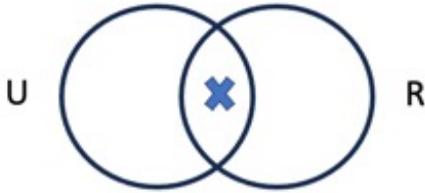
I: Some Rectangles are Squares
R: Rectangles
S: Squares

5. All sandwiches have lettuce.



A: All Sandwiches are Lettuce having things
S: Sandwiches
L: Lettuce having things

6. Some uranium is radioactive.

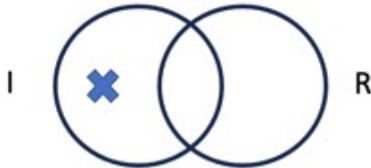


I: Some Uranium are Radioactive

U: Uranium

R: Radioactive

7. Iron is not radioactive.

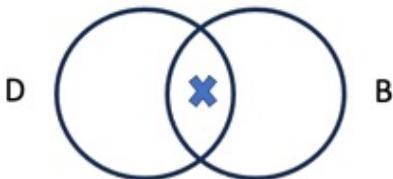


O: Some Iron is not Radioactive. (depends on whether this is interpreted as Iron can never be Radioactive, in which case it is E: No Iron is Radioactive.)

I: Iron

R: Radioactive

8. Some dogs bite children.

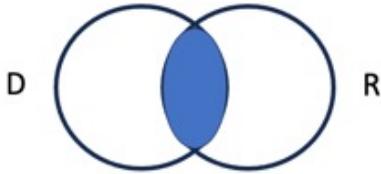


I: Some Dogs are things that bite Children

D: Dogs

B: Things that bite Children

9. Dogs are never reptiles.



E: No Dogs are Reptiles

D: Dogs

R: Reptiles

Chapter 10

Exercise Answers

Part I. Categorical Statement Practice

Identify the form (A, E, I, or O) of these statements and put them in standard categorical form.

1. Only doctors are surgeons.
A: All Surgeons are Doctors
2. Mustangs are Fords.
A: All M are F
3. Students often bike to school.
I: Some Students are People who bike to school
4. There are polar bears in Canada.
I: Some polar bears are located in places identical to Canada
5. Some polar bears do not live in Canada.
O: Some polar bears are not in places identical to Canada
6. If not you, I'll have no friend.
A: All Friends I have are People identical to you
7. Everything worth doing is worth doing well.
A: All things worth doing are things worth doing well

8. Paris is beautiful.

A: All places identical to Paris are Beautiful

9. This swamp isn't beautiful.

E: No Places identical with this swamp are Beautiful

Part II. Categorical Arguments in Standard Form

Identify the three terms (the premises and conclusion) in these arguments, translate them appropriately, and put the premises and conclusion into the standard form.

1. Bananas are delicious, but rotten bananas are not, so some bananas are not rotten.

B = Bananas

D = Delicious things

R = Rotten bananas

Premises:

“Bananas are delicious” this is particular. Some bananas are delicious.

“Rotten Bananas are not delicious” this is universal. There aren't rotten bananas that are delicious.

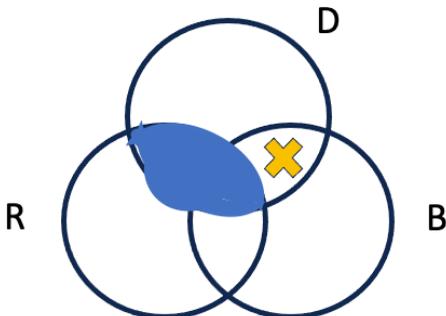
Conclusion: Some Bananas are not rotten.

No R are D

Some B are D

C: Some B are not R

ANSWER: VALID



2. Stephen Harper is the prime minister, and Stephen Harper is anglo-
phone, so some prime ministers are anglophone.

A = persons identical with Stephen Harper
 B = persons identical with the Prime Minister
 C = Anglophone persons

Premises:

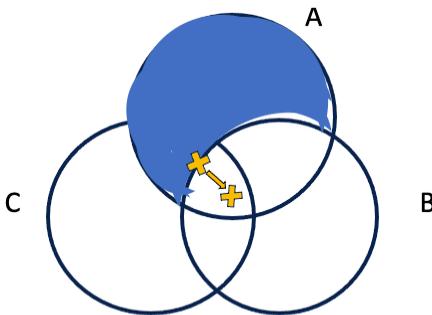
“All persons who are identical with Stephen Harper are persons identical
 with the Prime Minister” (All A are B)

“Some persons identical with Stephen Harper are Anglophone persons”
 (Some A are C)

Conclusion: Some persons identical with the Prime Minister are Anglo-
 phone persons (Some B are C). (Because the conclusion is particular, one
 of the premises must be as well)

Some A are C
 All A are B
 C: Some B are C

ANSWER: VALID



3. (In the TV show Buffy the Vampire Slayer): Angel is a vampire with a
 soul, and no one with a soul is totally evil, so some vampires are not
 totally evil.

A = People identical with Angel
 V = Vampires
 S = Soul having beings

E = Totally evil beings

Directly translated, this is what we get:

All A are S

No S are T

C: Some V are not T

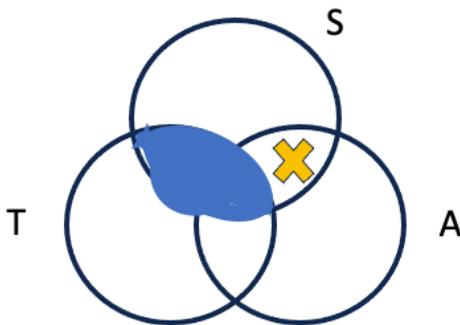
This won't work because we have four terms we can't reduce. We need to make it clear that if you have a soul you are not totally evil.

No S are T

Some A are S

C: Some A are not T (conclusion becomes a premise in the next syllogism)

ANSWER: VALID

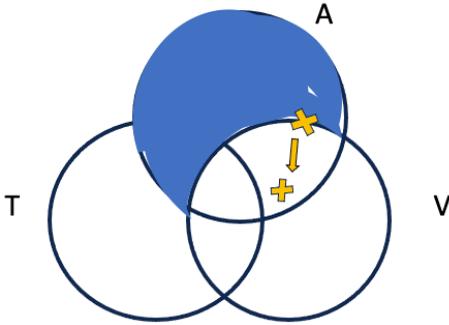


Some A are not T

All A are V

C: Some V are not T

ANSWER: VALID



4. Willow branches are weak, and the weak always fail, so some willow branches fail.

M = branches

W = weak things

F = things that fail

The second premise (“the weak always fail”) is clearly universal (an **A** statement) and the conclusion is particular (an **I** statement), so the first premise (“willow branches are weak”) will have to be translated as a particular premise (**I** statement) or else the argument cannot be valid, so the premises are:

Some Willow Branches are weak creatures (Some M are W)

All weak creatures are creatures that fail (All W are F)

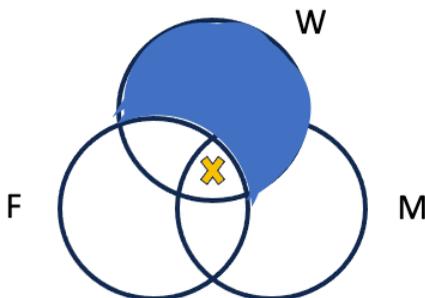
Conclusion: should be Some willow branches are creatures that fail (Some M are F)

All W are F

Some M are W

C: Some M are F

ANSWER: VALID



5. The melting point of tin is 232C, and some of my pots are tin, so they melt at 232C.

T = Things that are tin

C = things that have a melting point of 232C

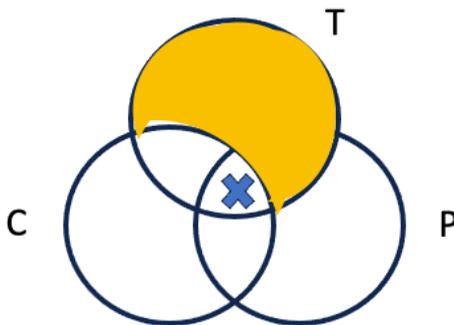
P = my pots

All T are C

Some P are T

C: Some P are C

ANSWER: VALID



6. The monsters under your bed are afraid when your teddy is in your bed, and your teddy is here in bed with you, so no monsters will come out from under your bed tonight. (Hint: Remember that you need to translate this using only three terms so you will need to be creative.)

There are several ways to make this argument amenable to translation as a single syllogism. Thinking of events or times is one way. If the three terms are

P = times when monsters under your bed won't come out

Q = Times when Teddy is in your bed

R = Times identical to tonight,

then the argument could be rewritten as:

Premise 1: All times when Teddy is in your bed are times when monsters under your bed won't come out

Premise 2: All times identical to tonight are times when Teddy is in your bed

Conclusion: All times identical to tonight are times when monsters under your bed won't come out.

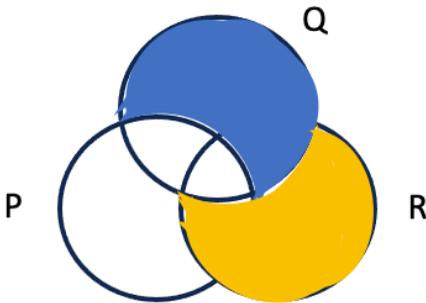
This translation assumes that monsters won't come out when they are afraid to come out, and that they are afraid of Teddy; so the translation is not perfect but it *does* preserve the validity of the argument.

All Q are P

All R are Q

C: All R are P

ANSWER: VALID



Chapter 11

Exercise Answers

Categorical Equivalence True or False

For each sentence, use an F or a T to mark whether it is true or false.

1. A-and E-type categorical statements are equivalent to their converses on the traditional interpretation. **False**
2. A and E categorical statements are affirmative in quality. **False**
3. A and O statements are contradictories. **True**
4. No term is distributed in an I statement. **True**
5. In conversion, one interchanges the subject and predicate terms. **True**
6. If all S are P is true, then all non-P are non-S is true. **True**
7. If some S are P is true, then some non-P are non-S is true. **False**
8. All four types of categorical statements have the same form as their contrapositives. **True**
9. The middle term of a syllogism never appears in the conclusion. **True**
10. If all S are P is true, and some S are Q is true, then some P are Q is true. **False**
11. The subcontrary of an I statement is an E statement. **False**
12. If some S are P is true, and some S are Q is true, then some P are Q is true. **False**

13. A term T is distributed in a statement if the statement makes a claim about everything that is T. **True**
14. The middle term of a syllogism always appears in the conclusion. **False**
15. If some S are not P is true, then not all S are P is true. **True**
16. A-and E-type categorical statements are equivalent to their contrapositives. **False**
17. The three kinds of negation in categorical statements are converse, obverse, and contradiction. **False**
18. A term is distributed if its extension has members. **False**
19. The three kinds of negation in categorical statements are contradiction, contrariety, and subcontrariety. **True**
20. All four types of categorical statements have the same form as their converses (on the traditional interpretation). **True**
21. The three kinds of negation in categorical statements are contrary, contradiction, and converse. **True**
22. All four types of categorical statements have the same form as their contrapositives. **True**
23. The contradictory of an A statement is an E statement. **False**
24. The contradictory of an A statement is an O statement. **True**
25. A statement has existential import if its predicate is distributed. **False**
26. In O statements, the subject term is distributed but not the predicate term. **False**

Chapter 12

Exercise Answers

Part I. Venn Diagram Practice

Put these arguments in categorical form, and use a Venn diagram to test for validity.

1. Sailors are not always swimmers (assuming classes have members).
Swimmers always drink beer. So some sailors don't drink beer.

Sailors = S

Swimmers = W

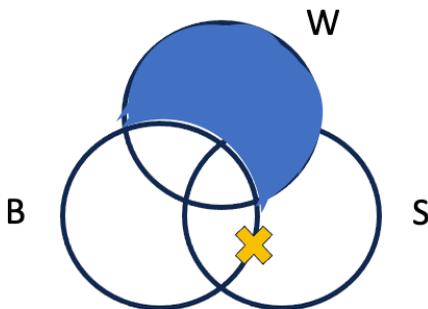
Beer drinkers = B

All W are B

Some S are not W

C: Some S are not B

ANSWER: INVALID



2. Most high school teachers are 40 years old. Some 40-year-olds are not dope smokers, since high school teachers never smoke dope.

H = High school teachers

O = 40-year-olds

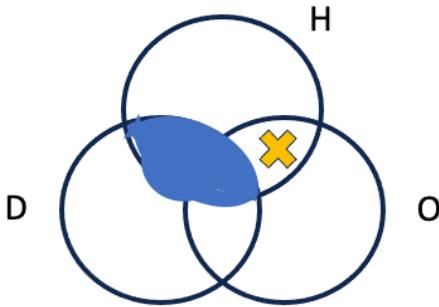
D = Dope smokers

No H are D

Some H are O

C: Some O are not D

ANSWER: VALID



3. Snakes are reptiles, and reptiles lay eggs, so snakes lay eggs.

S = Snakes

R = Reptiles

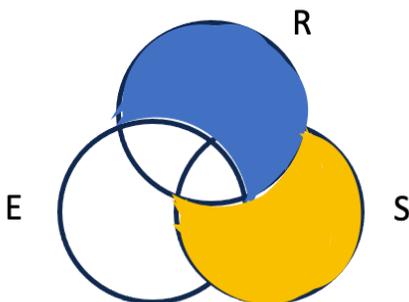
E = Egg layers

All R are E

All S are R

C: All S are E

ANSWER: VALID



4. No painters are rational, since no rational being is an artist and painters are artists.

P = Painters = A

R = Rational beings

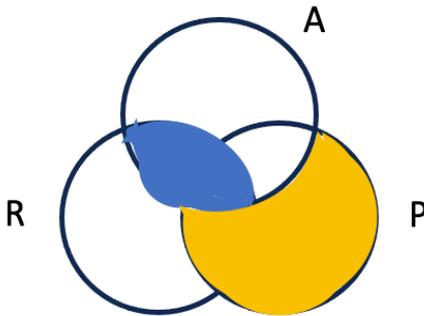
A = Artists

No R are A

All P are A

A: No P are R

ANSWER: VALID



Mary is unhappy. Unhappy people are always overworked, so Mary is overworked.

M = People identical to Mary

U = Unhappy people

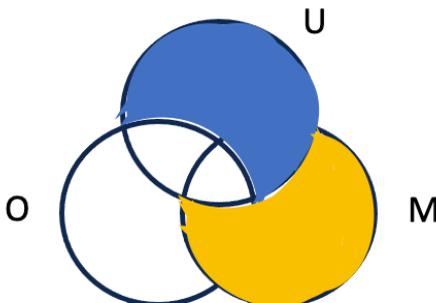
O = Overworked people

All U are O

All M are U

C: All M are O

ANSWER: VALID



Part II. More Venn Diagram Practice

Use Venn diagrams to determine whether these arguments are valid.

1. People wearing gym shoes are allowed to play in the gym. All the first graders are wearing gym shoes, so they can play in the gym.

P = People wearing gym shoes

A = People Allowed to play in gym

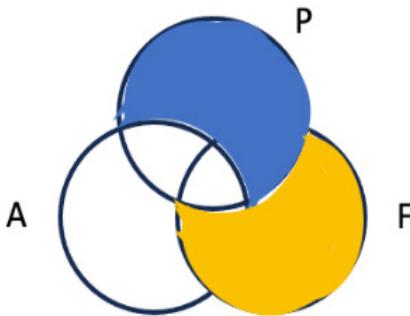
F = First graders

All P are A

All F are P

C: All F are A

ANSWER: VALID



2. Only students get a free lunch. Martha is not a student, so Martha cannot eat lunch for free.

F = People getting Free lunch

S = Students

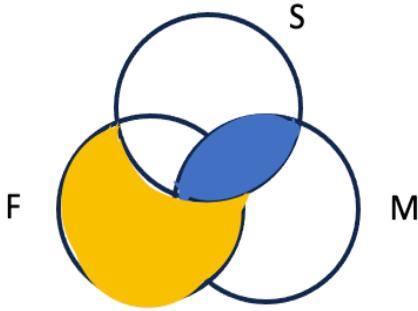
M = People identical to Martha

All F are S

No M are S

C: No M are F

ANSWER: VALID



3. All vampires drink blood. No living creatures are vampires. (So) Some blood drinkers are not alive.

V = vampires

L = living creatures

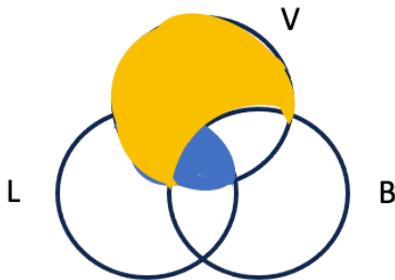
B = blood drinkers

All V are B

No L are V

C: Some B are not L

ANSWER: INVALID (there is no "X" in the B that is not L)



4. Some dead things have souls, because some vampires have souls and all vampires are dead.

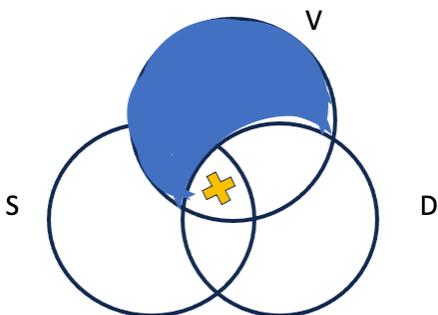
D = dead things

V = Vampires

S = possessors of souls

All V are D
Some V are S
C: Some D are S

ANSWER: VALID

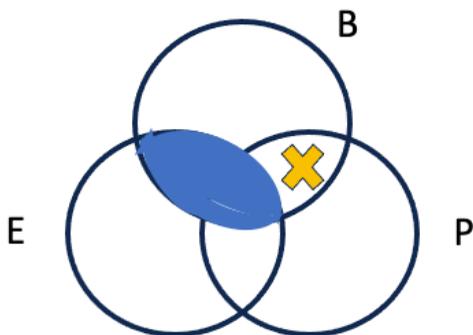


5. Some philosophy classes are very boring, although all Eric's philosophy classes are exciting. So there are philosophy classes not taught by Eric.

P = philosophy classes
B = boring classes
E = Eric's classes

No E are B
Some P are B
C: Some P are not E

ANSWER: VALID



6. Not all Canadians know the periodic table of elements, but only people who know the periodic table of elements are scientifically literate, so not all Canadians are scientifically literate.

K = People Knowing periodic table of elements

L = People who are scientifically Literate

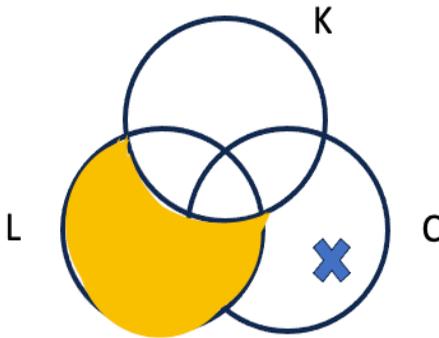
C = Canadians

All L are K

Some C are not K

C: Some C are not L

ANSWER: VALID



7. All the reporters at the Daily Planet live in Metropolis. Clark Kent is a reporter at the Daily Planet, so he lives in Metropolis.

R = reporters at the Daily Planet

M = people who live in Metropolis

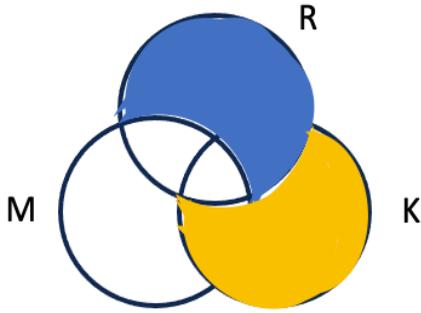
K = people identical to Clark Kent

All R are M

All K are R

C: All K are M

ANSWER: VALID

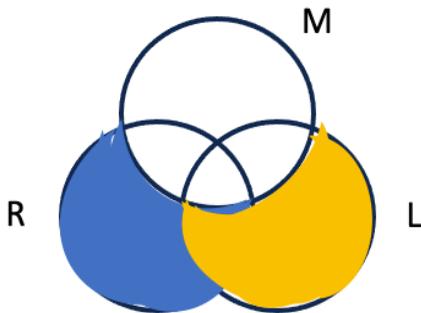


8. All the reporters at the Daily Planet live in Metropolis. Lois Lane lives in Metropolis, so Lois Lane is a reporter at the Daily Planet.

R = Reporters at the Daily Planet
M = People who live in Metropolis
L = People identical to Lois Lane

All R are M
All L are M
C: All L are R

ANSWER: INVALID



Part III. Enthymeme Practice

Reconstruct these enthymemes as syllogisms and test for validity.

- All fish can swim, so trout can swim.

A: Valid Barbara syllogism. Implicit premise is “All trout are fish.”

- The students in philosophy 140 will do badly on the test because they didn’t study.

A: There are a number of ways to translate this depending on whether you want to say that all or only some students will do badly and whether or not you treat Study or don’t study as your middle term. I have assumed that we have an A statement, in which case the missing information is that people who don’t study will do badly.

S = Students in Phil 140

B = People who will do Badly on the test

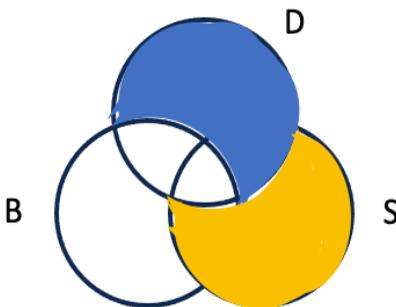
D = People who Don’t study

All S are D

Implicit premise All D are B

All S are B

ANSWER: VALID



- Trout are fish, and fish are tasty, so you will like eating trout (treat as two syllogisms where the conclusion of the first is a premise in the second).

T=Trout

F=Fish

S=Tasty things

E=Things you will like Eating

All F are S

All T are F

C: All T are S

All S are E

All T are S

C: All T are E

ANSWER: Two Valid Barbara syllogisms

4. Some Canadians are not critical thinkers, so don't listen to their opinions.

We need to add an implicit premise with the information that we don't need to listen to the opinions of non-critical thinkers

L = People we don't Listen

C = Canadians

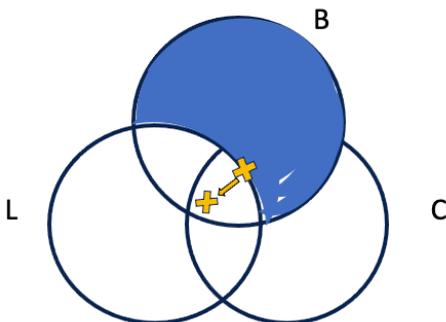
B = Not critical thinkers

Some C are B

Implicit premise All B are L

Some C are L

In graphing this syllogism we graph the first premise by putting the "X" on the line dividing the lens between C and B and then the second by filling in the crescent made by the part of B outside of L. This bumps the "X" into L and so the argument is VALID



Chapter 14

Exercise Answers

Ambiguity Practice

Identify the following fallacies of ambiguity and explain why the fallacy demonstrated undermines the argument (amphiboly, accent, composition, division, hypostatization, or equivocation).

1. Our X-ray unit will give you an examination for tuberculosis and other diseases, which you will receive free of charge.

ANSWER: Amphiboly

2. The apartment building Neetu lives in is just huge! She must have an enormous apartment!

ANSWER: Division

3. Whenever the state butts into private affairs, it makes a mess of things.

ANSWER: Hypostatization

4. The owners of this laundromat should be arrested for indecency! Look at the sign over the washers: "People using washers must remove their clothes when the machines stop."

ANSWER: Amphiboly

5. The font so generously donated by the Smith family will be placed at the east end of the church. Babies may now be baptized at both ends.

ANSWER: Equivocation

6. The MPs from Saskatchewan must have done a very good job last session because Parliament achieved a lot of good work.

ANSWER: Division

7. The cost for the government to pay for the health care of a sick person is just a few thousand dollars a year on average. So health care can't be a big factor in the national budget.

ANSWER: Composition

8. Doctor: "I'm not sure what the disease you have is, but frankly I think it is due to drinking." Patient: "That's okay. I will come back when you are sober."

ANSWER: Equivocation

9. Don't let worry make you depressed and angry—let the church help!

ANSWER: Amphiboly

10. Politician: "You may be wondering whether you should vote for me or my opponent. This is, of course, a difficult and weighty question of public morality, but you may wish to consider that at least I have remained faithful to my wife."

ANSWER: Accent

11. The only way our company will be successful is if every single one of us works as hard as possible.

ANSWER: Composition

12. People are always saying that the right wing is off base on the economy. That can't be true. They are always on the right side of the issue.

ANSWER: Equivocation

13. Very improbable events happen all the time. Whatever happens all the time is a very probable event. Therefore, very improbable events are very probable events.

ANSWER: Equivocation

14. The bald eagle is disappearing. This bird is a bald eagle, so it must be disappearing.

ANSWER: Division

15. The government needs to fight poverty.

ANSWER: Hypostatization

16. I'm not saying he stole the money, but I am saying he "borrowed" it.

ANSWER: Accent (but also special pleading)

17. Let's take this problem by the horns and destroy it once and for all.

ANSWER: Hypostatization

18. I checked every piece of machinery in the plane, and they all look new, therefore the plane is working like a new plane.

ANSWER: Composition

Chapter 15

Exercise Answers

Emotional Bias

Identify the following fallacies of emotion and bias and explain why they are the particular fallacy you identify and what is wrong with them (abuse, poisoning the well, tu quoque, mob appeal, appeal to pity, appeal to force or fear, or two wrongs make a right).

1. How can the university president be against government interference?
He was for it when it served his purposes.
A. Tu quoque: Conclusion is the president shouldn't be against government interference
2. Mechanic: No, if you don't mind losing a tire, going off the road, and killing yourself and others, you don't need a new tire.
A. Force or fear: Conclusion is "you need to buy a new tire" because the mechanic is being sarcastic.
3. They had a secret agenda the whole time, so **if we come up with a secret agenda we are just playing by their rules.**
A. Two wrongs make a right
4. You are telling me not to litter? You use plastic water bottles all the time!
A. Tu quoque: Conclusion is I should be able to litter

5. **You better find the fallacies in these arguments** or you are going to fail this class!

A. Force or fear

6. I suppose you think you can give me study advice? You are always on your phone scrolling Tik Tok!

A. Tu quoque: conclusion is you cannot give me study advice

7. I would never go to an unmarried couple's therapist who has been divorced three times! What do they know about marriage??

A. Tu quoque: conclusion is I shouldn't go to this therapist

8. **Don't listen to Joe** about the right way to live—he's an atheist!

A. Poisoning the well

9. I know I was speeding, but I'm rushing to the hospital because my mother is sick. Please don't give me a ticket!

A. Appeal to pity

10. They were name-calling way worse than me, so **I am well within my right to call them a loser.**

A. Two wrongs make a right

11. Person A: Distracted driving kills. We need to bring in a law against cell-phone use while driving.

Person B: I saw Person A checking his GPS while driving here. How can we take his advice?

A. Tu quoque: We can't listen to Person A

12. Everyone knows how sexy it is to own your own house. So, **if you want to have a hot partner like me, you need to invest in real estate.**

A. Mob appeal

13. Do you want to go to Hell? If not, **you should be accepting Jesus as your saviour!**

A. Force or fear

14. Kristin is a godless atheist with known Communist sympathies—**don't listen to her!**

A. Abuse

15. The party leader is opposed to capital punishment. She talks about it being cruel, but **this is just the sort of liberal ideas we can expect from a bleeding-heart old grandmother.**

A. Poisoning the well: undercuts ability to speak; Abuse: name calls “bleeding heart old grandmother.”

16. Father Kim talks about how abortion is immoral, but **don't listen to him;** he has to say that because he is a Catholic priest.

A. Poisoning the well

Chapter 16

Exercise Answers

Identifying Fallacies of Expertise

Identify the following fallacies of expertise and explain why they are the particular fallacy you identify and what is wrong with them (appeal to authority, snob appeal, appeal to tradition, appeal to nature, appeal to anonymous authority, or appeal to ignorance).

Conclusions are identified with bolded text and answers follow

1. This is the way that Kim Kardashian eats, **therefore it is a good diet.**
A. Appeal to authority. Kim K is not a recognized expert on nutrition
2. No one I know has improved by going to therapy. **It is a waste of time.**
A. Appeal to ignorance. The value of therapy is not dependent on who you know.
3. My friend is a nurse and she does not get vaccinated for COVID-19, **so it must not work.**
A. Appeal to authority. One nurse's decision about their body is not related to the established effectiveness of the vaccine. Also, appeal to anonymous "my friend."

4. **God must have created the universe.** Have you noticed that no scientist or evolutionist has been able to explain where the power for the “big bang” came from?

A. Appeal to ignorance: non explanation is being used to prove a conclusion true (God created universe)

5. **We should support city council's bid for a nuclear reactor to be built in the city.** Surely if there were any economic or safety problems they would know about them and be against the proposal.

A. Appeal to ignorance: saying something is safe because it hasn't been proved otherwise.

6. I've never hear a bad word about Bill Johnson, therefore **he is a great person.**

A. Appeal to ignorance. Uses non-proof

7. When you were little, we put toddlers in walkers all of the time. You are fine to **put your toddler in a walker.**

A. Appeal to tradition: just because it was done this way in the past doesn't by itself give us reason to do it in the future.

8. People are saying you can't trust the chair of the parent board for the school. Sounds like **the chair is corrupt.**

A. Appeal to anonymous authority: “people are saying”

9. Mothers now complain that there isn't enough parental leave! There was only three months parental leave when I had my children. Obviously, **a year is more than adequate.**

A. Appeal to tradition: just because it was done that way in the past, doesn't mean it needs to continue that way.

10. Our local city counsellor said that the only way to improve our tax base is to bring in new housing developments. **So, I guess we need to bring in new housing developments.**

A. Appeal to authority. Uses the city counsellor's word as the only reason

Chapter 17

Exercise Answers

Identifying Fallacies of Distorting the Facts

Identify the fallacies of distorting the facts and explain why they are the particular fallacy you identify and what is wrong with them. If the answer is false cause, identify which of the false cause fallacies (choose from false analogy, *post hoc ergo propter hoc*, mere correlation, spurious correlation, reversing cause and effect, slippery slope, or irrelevant thesis).

Conclusions are identified with bolded text and answers follow

1. **God must exist**, since if everyone believed that there was no God then we would have no reason to obey the law and the world would be in chaos.
A. Slippery slope because it tries to prove the conclusion by setting up a series of inevitable and drastic consequences.
2. It was forty-three degrees Celcius when Albert finished the eighteenth hole on the golf course. He drank seventeen glasses of water in quick succession. Then he drank a beer and immediately passed out. **Albert must have trouble with beer.**
A. Spurious correlation because the weather and all the water could have been why he passed out. (Slightly better answer) *Post hoc ergo propter hoc* because it claims that because he passed out immediately after the beer, it was the beer that made him pass out.

3. **Climate change is not warming the globe.** It was warm yesterday, and now today it is cooler. It is cooling down!
A. Mere correlation because global temperatures could still be rising even if it snowed. Or, hasty generalization because it uses a change in weather over two days to make a conclusion about a larger trend and what is causing it.
4. **People shouldn't complain when tuition prices keep going up.** But you have to also consider how housing and food prices are going up too.
A. Irrelevant thesis, the arguer distracts from the issue of tuition by bringing up other costs.
5. Students are using ChatGPT to write essays, soon every assignment by every student will be fake, therefore **university will have no point anymore at all.**
A. Slippery slope because it states these consequences are necessary without providing justification for each step of the argument.
6. Anger is like steam under pressure. Keep it bottled up and let it build, the next thing you **know someone might get killed.**
A. False analogy: Anger is not like steam. Humans' anger can be controlled, but steam can't control itself. Steam isn't a moral agent.
7. When people get severe migraine headaches they get nauseous and feel faint, so **nausea makes you feel faint.**
A. Spurious correlation: The migraine likely caused both (independently or in a sequence).
8. Journalist: "How will you address the education crisis when you are elected?" Politician: "I am glad you asked that. My new unemployment legislation will bring jobs to Alberta."
A. Irrelevant thesis because it distracts from the issue and changes the topic.
9. If we allow medical assistance in dying (MAID) to those with terminal illnesses, then not only will doctors just be deciding to off people when-

ever, citizens will be taking MAID over any minor inconvenience. **Therefore do not allow any use of MAID.**

A. Slippery slope goes from MAID to chaos

10. When Joe drinks he is no fun to be around. He is unhappy, he hates his job and Marcia (his now ex-girlfriend) picked up with another guy. **Drinking makes him a real bumner, man.**

A. Spurious correlation because his job and his ex is what is causing the drinking. He was already a bumner.

11. Recent studies show that the death rate in Canadian hospitals (even controlling for negligence) is considerably higher than the overall Canadian death rate. **Obviously Canadian hospitals are not providing proper care.**

A. Reversing cause and effect. Being ill (near death) makes you go to the hospital.

12. I put on my knee-high socks before attending the last Oilers game and then they won. **They will surely lose unless I do the same thing before tonight's game.**

A. Post hoc ergo propter hoc because it is assuming that because the action preceded the effect it was the cause of the effect.

13. Children have more screen time than ever. Inflation is also on the rise. **If children were being raised without screentime, we would curb inflation.**

A. Mere correlation: there's no causal mechanism connecting one trend to the other.

14. I got COVID-19 after I got the COVID-19 vaccine. **Obviously the vaccine gave me COVID-19.**

A. Post hoc ergo propter hoc. Just because the person got COVID-19 after the vaccine doesn't mean that the vaccine was the cause of their COVID-19.

15. I sell so much more ice cream when the weather is hot. These **warm temperatures are great for my ice cream business.**

A. Spurious correlation: the heat causes ppl to go on vacation, increasing customers and therefore sales.

Chapter 18

Exercise Answers

Identifying Fallacies of Presumption (and Ambiguity)

Identify the fallacies of presumption and explain why they are the particular fallacy you identify and what is wrong with them (hasty generalization, sweeping generalization, or bifurcation). There are also examples of composition and division mixed in.

Conclusions are identified with bolded text and answers follow

1. Each oil company is perfectly free to set its own price for gas **so there can be nothing wrong with all the oil companies getting together to fix a common price for gas.**
A. Composition: property of an individual company is not compositionally inherited by the mass of oil companies. It would be a monopoly (a different kind of thing).
2. Diamonds are rarely found in this country, **so be careful not to misplace your wedding ring.**
A. Sweeping generalization: Rule of diamonds being rare is improperly applied to one's ring. Maybe division
3. The NDP was booted out of government in last provincial election in Saskatchewan, so **NDP'er Pat Atkinson must have lost her race here in Saskatoon Broadway.**
A. Division: government is the whole, Pat Atkinson is the part.

4. Traffic collisions are on the increase. Collisions between Model-T Fords are in collisions, therefore collisions between model-T Fords are on the increase.

A. Sweeping generalization: Rule about accidents sweeping over special case (rare car)

5. Yes, I know Mike had surgery, but that was a month ago and he should have recovered by now. The point is that his term paper ought to have been in by now. That's enough to show me that **nobody can ever count on Mike to do his work.**

A. Hasty: special case of having had surgery, can't generalize about his reliability.

6. Anyone who cares about their appearance would never wear sweatpants. Marcia is wearing sweatpants because she is just coming back from exercising, **so we can see she has chosen not to care about her appearance.**

A. Sweeping: just having exercised blocks the rule.

7. Marcia loves pepperoni and olives and she is crazy about butterscotch swirl ice cream, **so she is sure to love the pepperoni and olive butterscotch swirl sundae you made her.**

A. Composition: Marcia loving each individual item doesn't translate to her loving them together.

8. Consider why **you should accept Jesus into your heart as your personal saviour.** Do you want to go to Hell? You have a choice: salvation or endless suffering. If you accept Jesus and change your life you will be saved. If you don't, you will go to Hell.

A. Bifurcation: two exclusive options are presented when others exist.

9. Terminally ill people in hospital are often given morphine drips when they are in pain **so morphine must be a good pain reliever for my headache.**

A. Hasty generalization: special case is terminally ill, generalized to any pain at all.

10. Dogs are harmless companions, **therefore this 110 pound Cane Corso that hasn't eaten in a week is harmless.**
 - A. Sweeping generalization: big dog very hungry is the special case.

11. This strong man competition winner is an excellent athlete, therefore **he should be able to run an ultra marathon.**
 - A. Sweeping: making a rule that the strong man can do anything, but ultra marathons are a special case.

12. Birds can fly, so **penguins can fly.**
 - A. Sweeping generalization. Penguins are a special kind of bird that cannot fly. The first premise "Birds can fly" should be interpreted as "most birds can fly."

13. In life, you either choose to dedicate yourself to your family or your career. You choose.
 - A. Bifurcation because there are more options or both can be true.

Chapter 19

Exercise Answers

Part I. Identifying Fallacies of Evading the Facts

Identify the following fallacies of evading the facts and explain why they are the particular fallacy you identify and what is wrong with them (straw person, begging the question/circularity, question begging epithets, complex question, or special pleading).

1. “Of course things like bribery are illegal; if such actions were not illegal, then they would not be prohibited by law.”

A: Begging the question/circularity: assumes without justification/repeats

2. “The elemental composition of Jupiter is known to be similar to the sun... The core would be composed mainly of iron and silicates, the materials that make up most of the earth’s bulk. Such a core is expected for cosmogenic reasons: If Jupiter’s composition is similar to the sun’s, the planet should contain a small portion of those elements.” J. Wolfe, “Jupiter,” *Scientific American* (Vol. 230 No. 1), 119.

A: Begging the question/circular: restates

3. (In the context of an interrogation with no cause of death currently identified.) Detective: “Who shot her in the head?”

A: Complex question: Answer is forced to affirm that the person was shot.

4. I understand you support a government-funded health care system, but we cannot have the government control every aspect of our health.

A: Straw person: creates a weak/extreme version of the person's view

5. I paid my taxes for years, and this year I can't afford it. So, everyone else must pay their taxes so I can have a little tax vacation.

A: Special pleading: making oneself an exception

6. Joe: That Lefty is a crook

Moe: What makes you think that he is?

Joe: Just look at the crooks he hangs out with.

Moe: Oh. How do you know that they are crooks?

Joe: Well, anyone who hangs around a crook like Lefty has just got to be a crook.

A: Circularity/begging the question

7. I'm not hoarding. I am only stocking up on everything before the *hoarders* get it all.

A: Special pleading: when I do it, it is "stocking up" but other people are hoarders.

8. Alice should get a 95 because she deserves a really high mark.

A: Begging the question/circularity. Doesn't offer relevant justification.

9. I won't listen to any liberal on gun control. They want to punish legal gun owners, especially those who use guns for subsistence hunting.

A: Straw person. Uses an extreme version of a view in order to most easily knock it down.

10. Listen, I know I am not a pharmacist or doctor, but I know my body, so I can use this medicine without a prescription. Everyone else, though, needs to consult a doctor.

A: Special pleading. This uses a double standard. I know my body whereas others should consult a doctor. We are equally unqualified.

11. Big tax exemptions for wealthy investors are absolutely justified because people who spend large sums of money in the market should be excused from paying large parts of their income tax.

A: Begging the question: restates in complex language. Does not offer justification.

12. When will these leaders stop spending money any way that suits them?

A: Complex question: Any way you answer it, you must agree that the leaders are mismanaging the funds.

13. You can be sure that we will give you an honest deal on a used car, since we will always deal with you in a forthright and honest way when you purchase a used car from us.

A: Begging the question. Just repeats that they are honest. It says they are honest because they are honest.

14. When will you abandon your support of hate speech?

A: Complex question. No matter how you answer, you accept the premise that you support hate speech, which hasn't been established.

Part II. Fallacy Practice with Explanations

In this group of questions, you are given a choice of four answers for each question. You may find that more than one choice has some merit, but you should identify which answer is the best. Some of the explanations are inaccurate, so make sure the fallacy **and** the explanation are correct when choosing.

1. Objects with a specific gravity less than that of water will float when you put them in water. The reason is that such objects won't sink in water.
 - A. Positioning the well against people who don't believe in gravity.
 - B. **Begging the Question because it just restates the same claim but uses "the reason that" as though it supports the next claim.**
 - C. Equivocation on the word "gravity"
 - D. Appeal to authority because it doesn't have a qualified expert

2. “There has been a major accident and we have closed this street to regular traffic so we cannot allow you to drive your ambulance down it.”
 - A. Irrelevant Thesis because traffic has nothing to do with the accident
 - B. Appeal to Authority because the ambulance has authority to drive
 - C. **Sweeping Generalization because the fact that the vehicle is an ambulance is a special case that blocks the rule that no traffic is allowed.**
 - D. Hasty Generalization because it makes a generalization without enough information

3. “Why should I take your pro-vegetarian arguments seriously? You wear a leather belt and leather shoes. You are just a hypocrite.”
 - A. Abuse because it is not nice to call someone a hypocrite
 - B. **Tu Quoque because it is dismissing their argument on the basis of an action. It is saying “look who’s talking.”**
 - C. Appeal to Ignorance because it is saying if they don’t wear a leather belt, it is proof of arguments for vegetarianism.
 - D. Complex Question because it is assuming they are wearing a leather belt without really asking.

4. Students who get help from tutors get lower scores on average than students who don’t; this shows that tutors are a waste of time.
 - A. Hasty Generalization because not all students who use tutors have lower scores to begin with
 - B. **False Cause Spurious correlation because poor ability is the common cause of low grades and needing a tutor**
 - C. False Cause Reversing Cause and Effect because it is the low scores in the first place which are bringing students to use tutors.
 - D. False Cause *Post Hoc* because it fails to establish that the students used the tutors before they had low scores.

5. I got a bad mark on my midterm. I can’t believe it. The material was so easy that there was no point studying. My Prof must just have had it in for me.
 - A. False Cause mere correlation because you don’t know if the prof lowered the grade on purpose.
 - B. Question begging epithets because it is slanted against the professor.

- C. Appeal to Ignorance because you can't say that it wasn't the professor.
- D. **Hasty Generalization because it takes a special case (not studying) and generalizes it to being about the professor.**
6. It really doesn't cost much for the government to pay for the medicare costs of a sick person. It's just a few thousand dollars a year on average. So medicare can't be a big factor in the national budget.
- A. Equivocation because "medicare" is being used in two different ways.
- B. Hasty Generalization because it applies a rule where it shouldn't apply
- C. **Composition because the property of "not costing much" is not compositionally inherited by the whole of all of the medicare budget.**
- D. Sweeping Generalization because it makes a rule out of an improper case
7. Prosecuting attorney in court: "When is the defence attorney planning to call that guilty as sin, Hunk Beedle, to the stand? OK, I'll rephrase that. When is the defence attorney planning to call that liar Hunk Beedle to the stand? Sorry your Honour, I withdraw my remarks."
- A. **question-begging epithets. This is because it assumes what it needs to prove (Hunk is guilty) and it uses loaded language to do so.**
- B. Abuse because it is mean
- C. Special Pleading because it applies a double standard
- D. *Tu Quoque* because the lawyer did the same thing as Hunk Beedle
8. "There are two types of people in this world: the rich and the suckers. Do you want to get rich, or are you happy to remain a sucker?"
- A. Force or Fear because it is trying to scare you away from being a sucker
- B. **Bifurcation because it confuses contraries with contradictories. There are more ways of being than being a sucker or being rich.**

- C. Complex Question because it asks a question with an unstated assumption
 - D. Appeal to Ignorance because it uses negative evidence
9. You must believe that God exists. After all, if you do not accept God into your heart, then you will face the horrors of hell.
- A. Appeal to Authority because it assumes God decides who goes to hell
 - B. **Force or Fear because it tries to compel belief using fear**
 - C. *Tu Quoque* because the speaker doesn't believe in God either
 - D. Poisoning the Well because it attacks your motives
10. Some people argue that sport fishing is wrong because fish can feel pain and they suffer. But that is nonsense. Fishing is a wonderful sport. It's relaxing and fun for the whole family and you get to eat what you catch!
- A. Appeal to Authority because it appeals to the authority of experiences of relaxing.
 - B. Poisoning the Well because it says the people against it believe in nonsense.
 - C. **Irrelevant thesis because it changes the topic to recreation, and doesn't address the actual argument, which is about pain and suffering.**
 - D. Appeal to Ignorance because it suggests that we don't know that fish feel pain.
11. My boyfriend just dumped me for another woman. Men are such jerks!
- A. **Hasty Generalization because it generalizes from a special case of someone who just dumped you.**
 - B. Abuse because it is harmful to name call.
 - C. Irrelevant Thesis because it changes the topic from a boyfriend to men in general.
 - D. Appeal to Ignorance because it doesn't prove that men are jerks.
12. At a certain point a car gets old enough and breaks down so frequently that it is no longer reasonable to fix it and we junk it. In the same way when a person gets old and decrepit enough he or she should be mercifully put to death.

- A. Abuse because it calls people “old and decrepit.”
 - B. Appeal to Authority because it appeals to the science of mechanics without citing the proper expert.
 - C. Hasty generalization because it generalizes from the special case of one old person to all.
 - D. **False Analogy because it improperly draws an analogy between people and cars where there are important relevant dissimilarities between them.**
13. Don't even bother to watch the Toronto Maple Leafs this spring. What a bunch of overpaid under-talented losers!
- A. **Abuse because it is simply name-calling.**
 - B. Question-begging Epithets because it uses slanted language to support a conclusion instead of proving it.
 - C. Poisoning the well because now anything the players say won't be listened to.
 - D. Force or Fear because it threatens to fire the players.
14. You don't need to ask Joseph what he thinks about the Liberal party. You know what he will say -- he's from Alberta.
- A. Hasty Generalization because it makes a generalization from one person.
 - B. Special Pleading because it applies a double standard.
 - C. Slippery slope because it reasons to a disastrous conclusion.
 - D. **Poisoning the well because it uses a person's identity/motivations to undermine their ability to speak.**
15. Every open-minded historian agrees that the *Bible* is relatively historically accurate and that Jesus actually existed.
- A. Straw person because it characterizes the opponent as a weaker view than they are.
 - B. Abuse because it is name calling.
 - C. **Special Pleading because it uses a double standard – the speaker is open minded, but their opponent is not.**
 - D. Appeal to anonymous authority because it doesn't name the historian.

16. This is the way we have always done things. You must teach Descartes in Introduction to Philosophy.
- A. Abuse because it is calling anyone who disagrees unintelligent.
 - B. Bifurcation because it is saying it is either Descartes or no one.
 - C. **Appeal to tradition because it uses “the way it has always been done” as a reason to continue to do it in the future.**
 - D. Slippery slope because it predicts bad consequences if you don't teach Descartes.
17. I wouldn't expect someone from Saskatchewan to understand the nuances of the film festival. If you are from a bigger city like us, it is possible to really understand all of the cultured ideals.
- A. Abuse because it is name calling someone from Saskatchewan.
 - B. **Snob appeal because it is using a sense of superiority to dismiss the other viewpoint.**
 - C. False cause (mere correlation) because it just so happens they are from Saskatchewan, it is not the cause of their understanding of the films.
 - D. Straw Person because it gives a weak characterization of people from Saskatchewan.

Part III. Using Fallacy Definitions

(Multiple choice with fill in the blank)

Here is a group of questions where you have a choice of four answers for each question. Fill in the blank for each explanation of the definition, and then identify which answer is the best.

1. We need to give the criminals who use violence in committing their crimes especially long sentences because it is the violent criminals who must be incarcerated the longest.
- A. Equivocation because it shifts the **meaning** of the word (nothing to fill in, not equivocation).
 - B. *Correct:* Begging the Question because it just restates the premise instead of **proving** the conclusion.
 - C. Force or Fear because it uses **fear** to force agreement.
 - D. Poisoning the well because it uses a person's **motivation** to undermine their ability to speak.

2. It doesn't seem that there is any room for debate here. Either we start selling cigarettes to boost our profit margin or we drift into bankruptcy when we can't pay our bills. So which would you prefer?
- A. Slippery slope because it uses a **disastrous** consequence to try to force agreement.
 - B. Force or Fear because it uses **fear** to try to force agreement.
 - C. False Analogy because it ignores **relevant** differences between profits and cigarettes.
 - D. *Correct:* Bifurcation because it confuses **contraries** with contradictories.
3. You wonder which of us to vote for, me or my opponent? It is, of course, a weighty question of public morality, but I ask you to consider that at least I have remained faithful to my spouse.
- A. Two wrongs make a right because it is suggesting that it is **permissible** to cheat if they both do.
 - B. Bifurcation because it confuses **contraries** with contradictories.
 - C. Appeal to Ignorance because it uses the opponents inability to **disprove** as proof of a claim's truth.
 - D. *Correct:* Accent because it relies upon an ambiguity that comes from **emphasizing** a particular word.
4. Buses use much more gasoline than automobiles, so the proposal that we all take the bus to work instead of driving a car is completely irresponsible. We would use so much more gas if we did that.
- A. Hasty Generalization because it uses an improper case from which to build a **general rule**.
 - B. Appeal to Ignorance because it uses the opponents inability to **disprove** as proof of a claim's truth.
 - C. Division because it improperly reasons from the property of a whole (all busses) to the property of a **part**.
 - D. *Correct:* Composition because it improperly reasons from the property of a part to the property of a **whole** (all buses).

5. Is Psychology still teaching that outdated nonsense about the effectiveness of electroshock therapy?
 - A. Appeal to Authority because it does not offer the specific **expertise** of the speaker. (wrong answer, too general definition). Should be: Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise** (fails to meet all or most of the 9 conditions for genuine authority).
 - B. Question begging epithets because it uses **slanted/loaded** language to assume what it needs to **prove**.
 - C. Appeal to Ignorance because it uses the opponents inability to **disprove** as proof of a claim's truth.
 - D. *Correct*: Complex Question because it asks a question where the answer presumes the truth of the claim.

6. Look you don't need to take Father Bob's remarks about gay marriage seriously. He's a priest. He has to be against it or he gets in trouble with the Church.
 - A. *Tu Quoque* because it points out a past action of Father Bob's to **undermine** his ability to speak.
 - B. Begging the Question because it **assumes** what it is supposed to prove.
 - C. *Correct*: Poisoning the well because it uses a person's **motiavation/interests** to undermine their ability to speak.
 - D. Appeal to tradition because it uses the way **it has (always) been done** in the past as a reason to continue to do it in the future.

7. Yes my client was drunk when he crashed into the telephone pole, but his car was totalled and he was severely injured. He's been in the hospital for months, and will be injured for life. Surely he deserves something for his pain and suffering I'm asking you of the jury to help him with a judgement against the power company for putting that pole so close to the street.
 - A. Hasty Generalization because it uses an improper case from which to build a **general rule**.
 - B. Weak Analogy because it ignore **relevant** differences between the two things being compared.

- C. False Cause Spurious correlation because something else might have been the **cause** of both the pole being there and the drunk driving.
- D. *Correct*: Sweeping Generalization because it applies a rule to a special **case** where it does not apply (You can't sue if you were driving drunk).
8. An intelligent and well read person like you shouldn't have any difficulty understanding how reasonable and important it is to support our town's school budget in the referendum
- A. Straw person because it uses a **weak** characterization to refute (as a substitute for reasoned argument).
- B. Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise (fails to meet all or most of the nine conditions for genuine authority)**
- C. Two wrongs make a right because it is using the fact that the other person would do the **same** thing as reason to prove their conclusion.
- D. *Correct*: Mob Appeal because it uses flattery and appeals to **special** interest to motivate belief.
9. Silken Laumann eats wheaties. Catriona Le May Doan eats wheaties. Myriam Bédard eats wheaties. These women are major athletes! You should eat wheaties too.
- A. *Correct*: Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise (fails to meet all or most of the 9 conditions for genuine authority)**.
- B. Hasty Generalization because it uses an improper case from which to build a **general rule**.
- C. Appeal to tradition because it uses the way **it has (always) been done** in the past as a reason to continue to do it in the future.
- D. Begging the Question because it **assumes** what it is supposed to prove.
10. In Toronto it has been found that there is a significant correlation between the number of fire trucks spraying water on a fire and the financial losses due to the fire. The extra trucks clearly make the damage worse.

- A. *Correct:* False Cause Spurious correlation because the extent of the fire causes both the number of trucks and the significant losses.
 - B. False Cause Mere correlation because there is not enough evidence to prove that the trucks caused the losses.
 - C. Sweeping Generalization because it doesn't pay attention to the relevant differences between fire trucks and other trucks.
 - D. Appeal to anonymous authority because it says that "some people are saying" this but it doesn't name who is making the claim.
11. The University of Saskatchewan is a great University. So if you want to study Philosophy this university is a great place to study.
- A. *Correct:* Division because it improperly reasons from the property of a whole (University) to the property of a **part (dept. of phil.)**.
 - B. Composition because it improperly reasons from the property of a part to the property of a **whole** (University).
 - C. Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise (fails to meet all or most of the nine conditions for genuine authority)**.
 - D. Irrelevant thesis because it **distracts** from the main issue.
12. Don't let worry kill you off—let the Church help.
- A. Abuse because it uses **name** calling.
 - B. Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise (fails to meet all or most of the nine conditions for genuine authority)**.
 - C. Appeal to anonymous authority because it says that "some people are saying" this but it doesn't name who is making the claim.
 - D. *Correct:* Amphiboly because it contains a **structural/grammatical** ambiguity.
13. Now that hockey is back on television we will once again have to watch those pathetic pretenders, Nik Antropov and Matts Sundin, and the rest of the Toronto Maple Leafs losers.
- A. *Correct:* Abuse because it uses **name** calling.
 - B. Question-begging Epithets because it uses **slanted/loaded** language to prove what has not yet been proved.

- C. Appeal to Ignorance because it uses the opponents inability to **disprove** as proof of a claim's truth.
- D. Amphiboly because it contains a **structural/grammatical** ambiguity.
14. My professor Eric Dayton is always spouting off about superstition and obviously is an atheist. I had better keep quiet about my religious beliefs so he won't be tempted to fail me.
- A. Hasty Generalization because it uses an improper case from which to build a **general rule**.
- B. *Correct*: Force or Fear appeal to **fear** as a reason to believe a claim.
- C. Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise (fails to meet all or most of the nine conditions for genuine authority)**.
- D. Irrelevant thesis because it **distracts** from the main issue.
15. The *Globe and Mail* says that Toronto is a much more expensive place to live than Thunderbay. But Toronto is a great place to live. It has great restaurants, live music, museums and of course it has the Blue Jays and the Maple Leafs. The *Globe and Mail* is all wrong.
- A. Appeal to Authority because it appeals to an expert without establishing they have the relevant **expertise (fails to meet all or most of the nine conditions for genuine authority)**.
- B. Poisoning the Well because it uses a person's **motivations/interest** to undermine their ability.
- C. *Correct*: Irrelevant thesis because it **distracts** from the main issue.
- D. Appeal to Ignorance because it uses the opponents inability to **disprove** as proof of a claim's truth.
16. Organic farming is superior because it is natural.
- A. *Correct*: Appeal to nature because it assumes that just because something is **natural** therefore it is superior
- B. Begging the Question because it **assumes** what it is supposed to prove.
- C. Poisoning the well because it uses a person's **motivations/interest** to undermine their ability to speak.
- D. Appeal to tradition because it uses the way **it has (always) been done** in the past as a reason to continue to do it in the future.

17. Using renewable energy is superior for the economy because it is more natural than using fossil fuels.
- A. *Correct:* Appeal to nature because it assumes that just because something is **natural** therefore it is superior.
 - B. Begging the Question because it **assumes** what it is supposed to prove.
 - C. Poisoning the well because it uses a person's **motivations/interest** to undermine their ability to speak.
 - D. Appeal to tradition because it uses the way **it has (always) been done** in the past as a reason to continue to do it in the future.
18. If we allow automation to replace human workers it will lead to massive job losses, economic collapse, and the end of the family as we know it.
- A. Appeal to nature because it assumes that just because something is **natural** it is superior.
 - B. *Correct:* Slippery slope because it argues that one **disastrous** event must **inevitably/necessarily** follow from another without argument that the event is inevitable.
 - C. Irrelevant thesis because it **distracts** from the main issue.
 - D. Appeal to Ignorance because it uses the opponents inability to **disprove** as proof of a claim's truth.