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PHILOSOPHICAL SKILLS

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HABITS

* These handouts were adapted from handouts by Joseph Stenberg.

SKILL #1
EVALUATING ARGUMENTS

What are arguments and what are they good for?
An ***argument*** is a chain of thought in which reasons, which are called ***premises***, are offered in support of some further claim, which is called the ***conclusion***.

Imagine you're unsure whether the death penalty should be outlawed, so you ask someone else for her opinion. In response, she might say, "Yes, the death penalty should be outlawed." If this person is a parent or a friend whose judgment you trust, you might infer that she is right and move on with your life. If, however, this person is a stranger whose judgment you don't trust, you'll want to know why she believes that the death penalty should be outlawed. In other words, you'll want to know her argument for that position. If her argument is a good one, you'll believe her, but if it isn't, you won't. *Arguments, therefore, help us figure out what we should believe.*

- Let's say this person gives you the following argument:

  "If a practice is cruel, then it should be outlawed. The death penalty is cruel. Therefore, the death penalty should be outlawed."

- Once we see that we've been given an argument, we will want to reconstruct it by putting it into what is called ***standard form*** or ***premise-conclusion form***. To do this, we list out the argument's premises above its conclusion as follows:

  (P1) If a practice is cruel, then it should be outlawed.
  (P2) The death penalty is cruel.
  (C1) Therefore, the death penalty should be outlawed.

What does it mean to evaluate an argument?
Now that we've got an argument in standard form, we can evaluate it. When we ***evaluate an argument***, we determine whether it gives us compelling reasons to accept its conclusion. If it does, then it's a *sound* argument. If it doesn't, then it's an *unsound* argument.

A ***sound argument*** must have the following two features:
1. *It must be* ***valid***. (The truth of its premises guarantees the truth of its conclusion.)
2. *It must have* ***true premises***.

If an argument is valid and has true premises, then it's sound, and we should believe its conclusion. If, however, an argument invalid or has one or more false premises, then it's unsound, and we should not accept its conclusion (unless we have some other sound argument for that conclusion).

How can I tell whether an argument is valid?
Valid arguments come in all shapes and sizes, but most of them can be fit into what is called a *valid argument form*. A ***valid argument form*** is a structure such that if an argument has that structure, then the truth of its premises guarantees the truth of its conclusion (i.e., it's valid).

Valid argument forms

We're going to focus our attention on learning three argument forms, *modus ponens*, *modus tollens*, and hypothetical syllogism. If an argument takes one of the following forms, it's valid. Below, I've provided a symbolization of each valid argument form on the left and an example of that argument form on the right.

1. *Modus Ponens* (MP)

A → B	If ONU is in Ada, then it is in Ohio.
A	ONU is in Ada.
B	Thus, ONU is in Ohio.

2. *Modus Tollens* (MT)

A → B	If Disney World is in Ada, then it is in Ohio.
~B	Disney World is **not** in Ohio.
~A	Thus, Disney World is **not** in Ada.

3. Hypothetical Syllogism (HS)

A → B	If ONU is in Ada, then ONU is in Ohio.
B → C	If ONU is in Ohio, then ONU is in the U.S.
A → C	Thus, if ONU is in Ada, then ONU is in the U.S.

Invalid argument forms

An ***invalid argument form*** is a structure such that if an argument has that structure, then the truth of its premises *doesn't* guarantee the truth of its conclusion (i.e., it's invalid). While invalid arguments, like valid arguments, come in all shapes and sizes, the following two invalid argument forms are commonly mistaken for valid argument forms. So, don't get confused! If an argument takes one of the following forms, then it's invalid.

1. Affirming the Consequent (AC)

A → B	If Cedar Point is in Ada, then it is in Ohio.
B	Cedar Point is in Ohio.
A	Thus, Cedar Point is in Ada.

2. Denying the Antecedent (DA)

A → B	If Cedar Point is in Ada, then it is in Ohio.
~A	Cedar Point is **not** in Ada.
~B	Thus, Cedar Point is **not** in Ohio.

Note: The order of an argument's premises doesn't matter. Thus, an argument takes the form *modus ponens* regardless of whether it looks like this: **A → B** / **A** / **B** or like this: **A** / **A → B** / **B**

How can I tell whether an argument's premises are true?
Some premises are relatively easy to evaluate. A ***simple statement***, like "ONU is in Ada," is symbolized with a single letter (e.g., "**A**"), and it is true as long as it's true (in the real world) that ONU is in Ada. Because ONU is in Ada, this simple statement is **true**.

A ***negation***, like "Disney World is **not** in Ada," is symbolized with a single letter that has a tilde in front (e.g., **~A**). This statement is also easy to evaluate. It's true as long as it's true (in the real world) that Disney World is *not* in Ada. Because Disney World is *not* in Ada, this negation is **true**.

A ***conditional statement***, like "If ONU is in Ada, then it is in Ohio," is symbolized with an arrow between its antecedent ("ONU is in Ada") and its consequent ("it is in Ohio"). So, if "ONU is in Ada" is "**A**" and "it is in Ohio" is "**B**", then the conditional statement is "**A → B**." Conditional statements like this one are more difficult to evaluate.

How can I tell whether a conditional is true?
In our class, we're interested in whether conditional statements like **A → B** are necessarily true (provided that we hold the meaning of the words fixed). So, in this class, we'll say that **A → B** is true if and only if **A**'s truth *guarantees* **B**'s truth. So, the conditional "If ONU is in Ada, then it is in Ohio" is true as long as ONU's being in Ada guarantees ONU's being in Ohio. As a matter of fact, ONU's being in Ada *does* guarantee its being in Ohio, so this conditional is **true**.

But what about a conditional like "If ONU is in San Francisco, then it is in California"? Is this conditional true? It is! Even though ONU is *not* in San Francisco, it's still truth that if it *were* in San Francisco, then it *would* be in California. Thus, this conditional is **true**.

A conditional like **A → B** is false when **A**'s truth does not guarantee **B**'s truth. Consider, for example, the conditional "If Hillary Clinton receives a majority of the nation's popular vote in 2020, then she will be our next president." This conditional is **false** because Hillary's receiving a majority of the nation's popular vote does not guarantee that she will become our next president. It might turn out that even though she receives a majority of the nation's popular vote, she doesn't receive a majority of the nation's electoral votes, and that's what you need to win the election. Furthermore, even if Hillary does receive a majority of the nation's electoral votes, it's possible that she could die before taking office, in which case she wouldn't be our next president. These hypothetical scenarios I've just described are two counterexamples to the conditional "If Hillary Clinton receives a majority of the nation's popular vote, then she will be our next president." We'll talk more about counterexamples later on in the course.

How do I evaluate arguments?
1. **Symbolize** the argument.
    a. Look at the argument's premises, and find the conditional statement (i.e., the "if …, then …" statement). Label the antecedent (the statement that comes after the word "if") "A" and label the consequent (the statement that comes after the word "then") "B."
    b. Label the other premise accordingly. (For example, if it is identical to the antecedent of the conditional statement, label it "A." If it is the negation of the antecedent of the conditional statement, label it "~A." Etc.)

2. Identify the argument's **form** and determine whether it's **valid**.
    a. Does the argument take a valid form (e.g., *modus ponens*, *modus tollens*, or hypothetical syllogism)? If so, it's valid.
    b. If the argument doesn't take a valid form, it's almost certainly invalid. But you should still check to see whether it takes an invalid form (e.g., affirming the consequent or denying the antecedent) or some other form.
3. Determine whether the argument's premises are **true**.
    a. Determine whether the argument's first premise is true.
    b. Determine whether the argument's second premise is true.
    c. Determine whether any additional premises are true.
4. Indicate whether the argument is **sound**.
    a. If the argument is valid and all of its premises are true, then the argument **sound** (and you are rationally required to believe its conclusion).
    b. If the argument is invalid or it has a false premise, then the argument is **unsound** (and you are not rationally required to believe its conclusion).
    c. Although every argument is either sound or unsound, you can't always know whether a particular argument is sound or unsound since you can't always know whether its premises are true. When this happens, you should acknowledge it.
    d. Finally, even if you aren't sure whether an argument is sound or unsound (because you aren't sure whether its premises are true), you might still have a sense for how strong that argument is. So, for example, if you have a valid argument and you justifiably think its premises are *probably true*, then you're justified in thinking that the argument itself is *probably sound*. Conversely, if you have a valid argument but you justifiably think its premises are *probably false*, then you're justified in thinking that the argument itself is *probably unsound*.

Practice

Example #1		Sym.	Form?	Valid?	Truth?	Sound?
(P1)	If Roger Federer is a man, then he is mortal.	**A→B**	**MT**	**V**	(P1) is f	S
(P2)	Roger Federer is *not* mortal.	**~B**		~V	**(P2) is f**	**~S**
(C1)	Therefore, Roger Federer is *not* a man.	**~A**				

1. Symbolize the argument.
2. This argument takes the form ***modus tollens***, so it's **valid**. ✓
3. (P1) is **true**, but (P2) is **false**. (Despite being a "tennis god," Federer is mortal.) ✗
4. Since (P2) is false, the argument is **unsound**. ✗

Example #2		Sym.	Form?	Valid?	Truth?	Sound?
(P1)	If Serena Williams is a mother, then she is a woman.	**A→B**	**AC**	V	(P1) is f	S
(P2)	Serena Williams is a woman.	**B**		**~V**	(P2) is f	**~S**
(C1)	Therefore, Serena Williams is a mother.	**A**				

Example #3						
(P1)	If dinosaurs roam the earth, then pigs can fly.	**A→B**	**HS**	**V**	**(P1) is f**	S
(P2)	If pigs can fly, then birds can swim.	**B→C**		~V	**(P2) is f**	**~S**
(C1)	Therefore, if dinosaurs roam the earth, then birds can swim.	**A→C**				

Practice Exercise #1.1

For each argument below, symbolize the argument and identify which form it takes (e.g., MP, MT, HS, AC, DA, *or* other*). Then, indicate whether it's valid or invalid and determine whether its premises are true. Finally, indicate whether the argument is sound.*

		Sym.	Form?	Valid?	Truth?	Sound?
0.	(P1) If Klondike is a polar bear, then Klondike is a mammal.	**A→B**	**DA**	V	(P1) is f	S
	(P2) Klondike is not a polar bear.	**~A**		**~V**	**(P2) is f**	**~S**
	(C1) Therefore, Klondike is not a mammal.	**~B**				
1.	(P1) If Klondike is a polar bear, then Klondike is a mammal.			V	(P1) is f	S
	(P2) Klondike is not a mammal.			~V	(P2) is f	~S
	(C1) Therefore, Klondike is not a polar bear.					
2.	(P1) If Klondike is a mammal, then Klondike is a polar bear.			V	(P1) is f	S
	(P2) Klondike is a polar bear.			~V	(P2) is f	~S
	(C1) Therefore, Klondike is a mammal.					
3.	(P1) If Klondike is a polar bear, then Klondike is a mammal.			V	(P1) is f	S
	(P2) Klondike is a polar bear.			~V	(P2) is f	~S
	(C1) Therefore, Klondike is a mammal.					
4.	(P1) If George Washington was killed in battle, then George Washington is dead.			V	(P1) is f	S
	(P2) George Washington is not dead.			~V	(P2) is f	~S
	(C1) Therefore, George Washington was not killed in battle.					
5.	(P1) If George Washington was killed in battle, then George Washington is dead.			V	(P1) is f	S
	(P2) George Washington was killed in battle.			~V	(P2) is f	~S
	(C1) Therefore, George Washington is dead.					
6.	(P1) George Washington was not killed in battle.			V	(P1) is f	S
	(P2) If George Washington was killed in battle, then George Washington is dead.			~V	(P2) is f	~S
	(C1) Therefore, George Washington is not dead.					
7.	(P1) It is not the case that George Washington is dead.			V	(P1) is f	S
	(P2) If George Washington was killed in battle, then George Washington is dead.			~V	(P2) is f	~S
	(C1) Therefore, it is not the case that George Washington was killed in battle.					
8.	(P1) George Washington was killed in battle.			V	(P1) is f	S
	(P2) If George Washington is dead, then George Washington was killed in battle.			~V	(P2) is f	~S
	(C1) Therefore, George Washington is dead.					
9.	(P1) George Washington is dead.			V	(P1) is f	S
	(P2) If George Washington is dead, then George Washington was killed in battle.			~V	(P2) is f	~S
	(C1) Therefore, George Washington was killed in battle.					
10.	(P1) If Nemo is a clownfish, then Nemo is a fish.			V	(P1) is f	S
	(P2) If Nemo is a fish, then Nemo is cold-blooded.			~V	(P2) is f	~S
	(C1) Therefore, if Nemo is a clownfish, then Nemo is cold-blooded.					
11.	(P1) If Nemo is cold-blooded, then Nemo is a fish.			V	(P1) is f	S
	(P2) If Nemo is a fish, then Nemo is a clownfish.			~V	(P2) is f	~S
	(C1) Therefore, if Nemo is cold-blooded, then Nemo is a clownfish.					
12.	(P1) If Nemo is a clownfish, then Nemo is a fish.			V	(P1) is f	S
	(P2) If Nemo is a fish, then Nemo is cold-blooded.			~V	(P2) is f	~S
	(C1) Therefore, if Nemo is cold-blooded, then Nemo is a clownfish.					
13.	(P1) If Nemo is a fish, then Nemo is cold-blooded.			V	(P1) is f	S
	(P2) If Nemo is a clownfish, then Nemo is a fish.			~V	(P2) is f	~S
	(C1) Therefore, if Nemo is a clownfish, then Nemo is cold-blooded.					

Practice Exercise #1.1 (answers)

For each argument below, symbolize the argument and identify which form it takes (e.g., MP, MT, HS, AC, DA, *or* other*). Then, indicate whether it's valid or invalid and determine whether its premises are true. Finally, indicate whether the argument is sound.*

		Sym.	Form?	Valid?	Truth?	Sound?
0.	(P1) If Klondike is a polar bear, then Klondike is a mammal. (P2) Klondike is not a polar bear. (C1) Therefore, Klondike is not a mammal.	**A→B** **~A** **~B**	**DA**	V **~V**	(P1) is f **(P2) is f**	S **~S**
1.	(P1) If Klondike is a polar bear, then Klondike is a mammal. (P2) Klondike is not a mammal. (C1) Therefore, Klondike is not a polar bear.	**A→B** **~B** **~A**	**MT**	**V** ~V	(P1) is f **(P2) is f**	S **~S**
2.	(P1) If Klondike is a mammal, then Klondike is a polar bear. (P2) Klondike is a polar bear. (C1) Therefore, Klondike is a mammal.	**A→B** **B** **A**	**AC**	V **~V**	**(P1) is f** (P2) is f	S **~S**
3.	(P1) If Klondike is a polar bear, then Klondike is a mammal. (P2) Klondike is a polar bear. (C1) Therefore, Klondike is a mammal.	**A→B** **A** **B**	**MP**	**V** ~V	(P1) is f (P2) is f	**S** ~S
4.	(P1) If George Washington was killed in battle, then George Washington is dead. (P2) George Washington is not dead. (C1) Therefore, George Washington was not killed in battle.	**A→B** **~B** **~A**	**MT**	**V** ~V	(P1) is f **(P2) is f**	S **~S**
5.	(P1) If George Washington was killed in battle, then George Washington is dead. (P2) George Washington was killed in battle. (C1) Therefore, George Washington is dead.	**A→B** **A** **B**	**MP**	**V** ~V	(P1) is f **(P2) is f**	S **~S**
6.	(P1) George Washington was not killed in battle. (P2) If George Washington was killed in battle, then George Washington is dead. (C1) Therefore, George Washington is not dead.	**~A** **A→B** **~B**	**DA**	V **~V**	(P1) is f (P2) is f	S **~S**
7.	(P1) It is not the case that George Washington is dead. (P2) If George Washington was killed in battle, then George Washington is dead. (C1) Therefore, it is not the case that George Washington was killed in battle.	**~B** **A→B** **~A**	**MT**	**V** ~V	**(P1) is f** (P2) is f	S **~S**
8.	(P1) George Washington was killed in battle. (P2) If George Washington is dead, then George Washington was killed in battle. (C1) Therefore, George Washington is dead.	**B** **A→B** **A**	**AC**	V **~V**	**(P1) is f** **(P2) is f**	S **~S**
9.	(P1) George Washington is dead. (P2) If George Washington is dead, then George Washington was killed in battle. (C1) Therefore, George Washington was killed in battle.	**A** **A→B** **B**	**MP**	**V** ~V	(P1) is f **(P2) is f**	S **~S**
10.	(P1) If Nemo is a clownfish, then Nemo is a fish. (P2) If Nemo is a fish, then Nemo is cold-blooded. (C1) Therefore, if Nemo is a clownfish, then Nemo is cold-blooded.	**A→B** **B→C** **A→C**	**HS**	**V** ~V	(P1) is f (P2) is f	**S** ~S
11.	(P1) If Nemo is cold-blooded, then Nemo is a fish. (P2) If Nemo is a fish, then Nemo is a clownfish. (C1) Therefore, if Nemo is cold-blooded, then Nemo is a clownfish.	**A→B** **B→C** **A→C**	**HS**	**V** ~V	**(P1) is f** **(P2) is f**	S **~S**
12.	(P1) If Nemo is a clownfish, then Nemo is a fish. (P2) If Nemo is a fish, then Nemo is cold-blooded. (C1) Therefore, if Nemo is cold-blooded, then Nemo is a clownfish.	**A→B** **B→C** **C→A**	**other**	V **~V**	(P1) is f (P2) is f	S **~S**
13.	(P1) If Nemo is a fish, then Nemo is cold-blooded. (P2) If Nemo is a clownfish, then Nemo is a fish. (C1) Therefore, if Nemo is a clownfish, then Nemo is cold-blooded.	**A→B** **C→A** **C→B**	**HS**	**V** ~V	(P1) is f (P2) is f	**S** ~S

SKILL #2
CONSTRUCTING AND RECONSTRUCTING MORAL ARGUMENTS

What does it mean to construct or reconstruct an argument?

Constructing an argument involves spelling out the premises and conclusion of *one's own* argument whereas ***reconstructing*** an argument involves spelling out the premises and conclusion of *someone else's* argument. Constructing or reconstructing an argument involves taking any implicit (or implied) premises and making them explicit by putting the relevant argument into *standard form* (which involves writing out (P1), (P2), (C1), etc.).

How do I reconstruct an argument?

1. Find an argument.
    - ❖ *"If a practice is cruel, then it should be outlawed. The death penalty is cruel. Therefore, the death penalty should be outlawed."*
2. Identify the argument's conclusion.
    - Remember, the argument's conclusion is the claim that the author wants you to believe; it's the claim that is supported by the others.
    - The argument's conclusion usually appears either at the beginning of the argument or at the end of the argument (or both) because it's natural to make a bold claim and then defend it or to build support for a claim until one finally reaches it.
    - To identify an argument's conclusion, look for **conclusion indicator words/phrases** like the ones listed below. Whatever comes *after* these words is almost always a conclusion.

accordingly	*hence*	*so*
as a result	*… implies that*	*therefore*
consequently	*it follows that*	*thus*
… entails that		

    - If you don't find any conclusion indicator words, it's likely that the argument's conclusion is at the beginning of the argument.

    - ❖ The conclusion of the argument above is: *the death penalty should be outlawed*.

3. Identify the argument's premises.
    - An argument's premises are the reasons the author gives for believing his or her conclusion; they're the claims that support the argument's conclusion.
    - To identify an argument's ***explicit*** premises, look for **premise indicator words/phrases** like the ones listed below. Whatever comes *after* these words is almost always a premise.

… as evidenced by	*for*	*… may be inferred from*
because	*given that*	*since*

    - If you don't find any premise indicator words, that's okay. As long as you've found the argument's conclusion, you can check to see which of the remaining claims support the argument's conclusion. Those that do are premises.

    - ❖ In the argument above, there are two explicit premises:
        - ❖ *If a practice is cruel, then it should be outlawed.*
        - ❖ *The death penalty is cruel.*

4. Put the argument in standard form.
    - To put an argument in *standard form* (or *premise-conclusion form*), list the argument's premises above its conclusion, and then label its premises and conclusion(s).
    - If we were to put the argument above into standard form, it would look as follows:

        (P1) If a practice is cruel, then it should be outlawed.
        (P2) The death penalty is cruel.
        (C1) Therefore, the death penalty should be outlawed.

Is that it?
Maybe. The goal of reconstructing an argument is not simply to have an argument but to have a *valid* argument. A valid argument, remember, is such that if its premises are true, then its conclusion must be true. If the argument you're reconstructing is valid, then you're done. If it isn't, then you have more work to do.

Why *valid* arguments?
Valid arguments are special. If an argument is valid, then the truth of its premises guarantees the truth of its conclusion. So, if we have a valid argument, we know that if its premises are true, then it's conclusion must be true! Consider the following argument:

(P1) If killing is always wrong, then euthanasia is wrong.
(P2) Killing is always wrong.
(C1) Therefore, euthanasia is wrong.

If the previous argument's premises are true, then its conclusion must be true. So, it's valid. What's nice about valid arguments like this one is that it's (relatively) easy to evaluate their conclusions. We just check to see whether their premises are true. In contrast, consider this argument:

(P1) If killing is always wrong, then euthanasia is wrong.
(P2) Euthanasia is wrong.
(C1) Therefore, killing is always wrong.

Even if this argument's premises are true, it's possible for its conclusion to be false. (Why? (P1) says that the wrongness of killing guarantees the wrongness of euthanasia, but it doesn't say that the wrongness of euthanasia guarantees the wrongness of killing. So, even if we know that (P2) is true, that is, that euthanasia is wrong, we can't infer that killing is always wrong.) As a result, this argument doesn't help us to evaluate its conclusion.

How do I reconstruct a *valid* argument?

1. Check whether your argument takes a valid form. **(See the handout on evaluating arguments.)** If it does, then you're done.
2. If not, check whether your argument takes an invalid form (i.e., check whether it affirms the consequent or denies the antecedent). If it does, try to changing it into an argument that takes the form *modus ponens* or *modus tollens*.
3. If your argument doesn't take a valid or invalid form, it may have an implicit premise, in which case you should read the instructions below.
4. If all else fails, continue altering it until (i) it takes a valid form and (ii) it roughly reflects the author's reasoning.

Reconstructing Arguments with Implicit Premises

- Some arguments have what are called ***implicit premises***. (Arguments can also have *implicit conclusions*.) Implicit premises aren't stated explicitly, but the author needs them in order for his or her argument to be valid.
- Consider the following argument:

  ❖ *The death penalty is cruel. Thus, it should be outlawed.*

- This argument makes perfect sense. The author is trying to convince us that *the death penalty should be outlawed* (that's the conclusion), and the (explicit) reason the author gives in support of that claim is that *the death penalty is cruel* (that's a premise).
- But if we were to put what we have into standard form, it would look as follows:

  (P1) The death penalty is cruel.

  (C1) Therefore, the death penalty should be outlawed.

- And if we were to symbolize this argument, it would look as follows:

  (P1) A

  (C1) B

- The problem is that this argument, as it stands, isn't in a valid argument form. So, we need to get it into one. In particular, we'll need to add a premise that will get us from "A" to "B." The easiest way to do this would be to add a premise that says "A → B." That would give us the following argument, which takes the form *modus ponens*:

  (P1) A
  (P2) A → B

  (C1) B

- Now that our argument takes a valid form, the final step in the process is to translate this argument back into English. If we do that, we get the following:

  (P1) The death penalty is cruel.
  (P2) If the death penalty is cruel, then it should be outlawed.

  (C1) Therefore, the death penalty should be outlawed.

- Excellent! We're done.

Practice Exercise #2.1

Reconstruct the following arguments by putting them into standard form. For each sentence, determine whether it is a premise or a conclusion, and write it in the appropriate spot. Then, if necessary, add the implicit premise or conclusion you need to make the argument valid. Finally, symbolize the argument on the right, and indicate which valid form it takes.

0. If farm animals can suffer, then we ought to treat them with respect. Farm animals can suffer. Therefore, we ought to treat them with respect.

		Sym.	Form?
(P1)	If farm animals can suffer, then we ought to treat them with respect.	A→B	MP
(P2)	Farm animals can suffer.	A	
(C1)	Therefore, we ought to treat farm animals with respect.	B	

1. If stem-cell research is prohibited, then we won't be able to cure certain diseases. And if we aren't able to cure certain diseases, then some people will die before they have to. Hence, if stem-cell research is prohibited, then some people will die before they have to.

		Sym.	Form?
(P1)			
(P2)			
(C1)			

2. Legalizing the buying and selling of organs is in everyone's best interest. Therefore, Congress should legalize the buying and selling of organs.

		Sym.	Form?
(P1)			
(P2)			
(C1)			

3. It is not morally wrong to give minorities preferential treatment in hiring because businesses are not morally obligated to hire the most qualified job applicant.

		Sym.	Form?
(P1)			
(P2)			
(C1)			

4. If we allow the cloning of humans, then our conception of what it means to be human will be radically altered. Surely we don't want that!

		Sym.	Form?
(P1)			
(P2)			
(C1)			

Practice Exercise #2.1 (answers)

Reconstruct the following arguments by putting them into standard form. For each sentence, determine whether it is a premise or a conclusion, and write it in the appropriate spot. Then, if necessary, add the implicit premise or conclusion you need to make the argument valid. Finally, symbolize the argument on the right, and indicate which valid form it takes.

0. If farm animals can suffer, then we ought to treat them with respect. Farm animals can suffer. Therefore, we ought to treat them with respect.

		Sym.	Form?
(P1)	If farm animals can suffer, then we ought to treat them with respect.	A→B	MP
(P2)	Farm animals can suffer.	A	
(C1)	Therefore, we ought to treat farm animals with respect.	B	

1. If stem-cell research is prohibited, then we won't be able to cure certain diseases. And if we aren't able to cure certain diseases, then some people will die before they have to. Hence, if stem-cell research is prohibited, then some people will die before they have to.

		Sym.	Form?
(P1)	If stem-cell research is prohibited, then we won't be able to cure certain diseases.	A→B	HS
(P2)	If we aren't able to cure certain diseases, then some people will die before they have to.	B→C	
(C1)	Therefore, if stem-cell research is prohibited, then some people will die before they have to.	A→C	

2. Legalizing the buying and selling of organs is in everyone's best interest. Therefore, Congress should legalize the buying and selling of organs.

		Sym.	Form?
(P1)	Legalizing the buying and selling of organs is in everyone's best interest.	A	MP
(P2)	If legalizing the buying and selling of organs is in everyone's best interest, then Congress should legalize the buying and selling of organs.	A→B	
(C1)	Therefore, Congress should legalize the buying and selling of organs.	B	

3. It is not morally wrong to give minorities preferential treatment in hiring because businesses are not morally obligated to hire the most qualified job applicant.

		Sym.	Form?
(P1)	Businesses are not morally obligated to hire the most qualified job applicant.	A	MP
(P2)	If businesses are not morally obligated to hire the most qualified job applicant, then it is not morally wrong to give minorities preferential treatment in hiring.	A→B	
(C1)	Therefore, it is not morally wrong to give minorities preferential treatment in hiring.	B	
	OR		
(P1)	If it morally wrong to give minorities preferential treatment in hiring, then business must be morally obligated to hire the most qualified job applicant.	A→B	MT
(P2)	But businesses are not morally obligated to hire the most qualified job applicant.	~B	
(C1)	Therefore, it is not morally wrong to give minorities preferential treatment in hiring.	~A	

4. If we allow the cloning of humans, then our conception of what it means to be human will be radically altered. Surely we don't want that!

		Sym.	Form?
(P1)	If we allow the cloning of humans, then our conception of what it means to be human will be radically altered.	A→B	MT
(P2)	We don't want our conception of what it means to be human to be radically altered.	~B	
(C1)	Therefore, we shouldn't allow the cloning of humans.	~A	

What does it mean to construct an argument?

Constructing an argument, remember, involves spelling out the premises and conclusion of *one's own* argument. For our purposes, this involves putting one's own argument into *standard form*, which involves stating its premises and its conclusion explicitly.

How do I construct a VALID argument?

1. To begin, you want to identify the conclusion for which you are arguing.
    - *"The death penalty should not be outlawed."*

2. Figure out why you believe this conclusion.
    - One reason you might think that the death penalty should not be outlawed is that you think some criminals deserve the death penalty. This will be a premise in the argument.

3. Put the argument in standard form.
    - Let's say that this premise the only premise you have in your argument. In that case, your argument will start out looking like this:

(P1) Some criminals deserve the death penalty.
(C1) Therefore, the death penalty should not be outlawed.

    - Notice that the argument above takes the following form:

(P1) A
(C1) B

4. Identify the argument's implicit premise.
    - That is not a valid argument form, so if we want our argument to be valid (which we do!), we'll need to add a premise. In particular, we'll need to add a premise that will get us from "A" to "B." The obvious choice here is the premise "A → B." If we add that premise, then we'll have a valid argument that takes the form *modus ponens*.

(P1) Some criminals deserve the death penalty.
(P2) If some criminals deserve the death penalty, then the death penalty should not be outlawed.
(C1) Therefore, the death penalty should not be outlawed.

    - Excellent! Now we have a valid argument for the conclusion we set out to defend.

How do I construct a *sound* argument?

The goal of constructing an argument is not simply to have a valid argument but to have a sound argument. A *sound* argument, remember, is not only valid but also has true premises. If the valid argument you've constructing is clearly sound, then you're done. If it isn't, then you might have more work to do.

(P1) Some criminals deserve the death penalty.
(P2) If some criminals deserve the death penalty, then the death penalty should not be outlawed.
(C1) Therefore, the death penalty should not be outlawed.

Both premises in this argument are somewhat controversial. Regarding (P1), some might argue that people lack free will and, therefore, that no one has control over their actions. Furthermore, those same people might argue that if no one has control over their actions, then no one deserves any kind of punishment, let alone the death penalty. If those people are right, then (P1) is false.

However, I imagine that most people would accept (P1) because it does seem like some criminals (e.g., hitmen, mass murderers, and serial killers) deserve the death penalty. But even if someone accepts (P1), that person might want to deny (P2) by arguing that even if some criminals deserve the death penalty, the death penalty should, nevertheless, be outlawed. One reason for thinking this is that even though some criminals deserve the death penalty, it might be difficult if not impossible to be sure that any particular criminal deserves the death penalty. Or, one might think that even though some criminals deserve the death penalty, the cost of executing such individuals might be too high.

In light of these objections to (P2), we might want to weaken it by making the following change:

> (P2*) If we can identify those criminals who deserve the death penalty and can execute them relatively inexpensively, then the death penalty should not be outlawed.

If we make those changes, then we should change (P1) accordingly.

(P1*) We can identify those criminals who deserve the death penalty and can execute them relatively inexpensively.
(P2*) If we can identify those criminals who deserve the death penalty and can execute them relatively inexpensively, then the death penalty should not be outlawed.
(C1) Therefore, the death penalty should not be outlawed.

This argument is better than the previous one in one sense because (P2*) is *more* plausible than (P2). However, it's worse than the previous one in another sense because (P1*) is *less* plausible than (P1). So, at this point, our attention might shift to (P1*). Those who believe (P1*) can give an argument for it, and then we can evaluate that argument.

What is a *moral* argument?
We can use arguments to debate all sorts of things, but in this class, we'll focus our attention on *moral* arguments. What makes moral arguments special is that their conclusions are moral claims. That is, their conclusions tell us what we *morally should (or should not) do*, or they tell us that a certain kind of action is *morally right, wrong*, *permissible*, *impermissible*, *obligatory*, *prohibited*, etc.

Here is an example of a non-moral argument:

(P1) If Ada is in Ohio, then Ada is in the U.S.
(P2) Ada is in Ohio.
(C1) Therefore, Ada is in the U.S.

As you can see, the conclusion of the argument above isn't a moral claim (i.e., it doesn't tell us what we *morally should (or should not) do* or that a certain kind of action is *morally right*, *wrong*, etc.) So, the argument isn't a moral argument. The following argument, however, is a moral argument.

(P1) Performing euthanasia involves playing God.
(P2) If an agent's act involves playing God, then that agent's act is *morally wrong*.
(C1) Therefore, if a doctor performs euthanasia, then that doctor's act is *morally wrong*.

As you can see, the conclusion of this argument is a moral claim. It tells us that if a doctor performs euthanasia, then he or she has done something morally wrong. So, this argument is a moral one.

How do I construct a moral argument?
In order to validly argue for a moral claim, *one's argument must contain at least one premise that is a moral claim*, so all moral arguments will contain at least one premise that is a moral claim. Again, a moral claim tells us what we *morally should (or should not) do*, or it tells us that a certain kind of action is *morally right, wrong*, *permissible*, *impermissible*, *obligatory*, *prohibited*, etc.

Here's one formula you might follow to construct valid moral arguments:

Principled Moral Arguments

(P1) Action X has feature Y.
(P2) If an act has feature Y, then it is morally obligatory/permissible/wrong.
(C1) Therefore, action X is morally obligatory/permissible/wrong.

You'll probably recognize is as being very similar to ***hypothetical syllogism***:

(P1) A → B
(P2) B → C
(C1) A → C

We'll call arguments like this ***principled*** moral arguments because they appeal to a ***moral principle*** (see (P2)) in arguing for their conclusions. The argument above against euthanasia is a principled moral argument.

Additional Examples:
(P1) Lying to one's customers violates their autonomy.
(P2) If an act violates someone's autonomy, then it is morally wrong.
(C1) Therefore, lying to one's customers is morally wrong.

(P1) Donating one's discretionary income to famine relief maximizes happiness.
(P2) If an act maximizes happiness, then that act is morally obligatory.
(C1) Therefore, donating one's discretionary income to famine relief is morally obligatory.

Sometimes, however, it just makes the most sense to use ***hypothetical syllogism***. Moral arguments that take this structure are still principled moral arguments because they still appeal to a principle in arguing for their conclusions.

(P1) If [agent] X-s, then he/she Y-s.
(P2) If an agent Y-s, then his/her act is morally obligatory/permissible/wrong.
(C1) Therefore, if [agent] X-s, then that his/her act is morally obligatory/permissible/wrong.

Using the argumentative structure described above is a reliable way to make moral arguments, but there is another argumentative structure that is worth mentioning.

Analogical Moral Arguments

(P1) Action A is morally obligatory/permissible/wrong.
(P2) Action A **is morally equivalent to** action X.
(C1) Therefore, action X is morally obligatory/permissible/wrong.

We can symbolize this form as follows:

(P1) $A \rightarrow B$
(P2) $A = C$
(C1) $C \rightarrow B$

We'll call arguments like this ***analogical*** moral arguments because they appeal to a ***moral analogy*** (see (P2)) in arguing for their conclusions.

Examples:

(P1) Scanning library books and emailing yourself the .pdfs is morally permissible.
(P2) Scanning library books and emailing yourself the .pdfs is morally equivalent to illegally downloading textbooks online.
(C1) Therefore, illegally download textbooks online is morally permissible.

(P1) Letting a child drown because saving him/her would require you to ruin your expensive new shoes is morally wrong.
(P2) Letting a child drown because saving him/her would require you to ruin your expensive new shoes is morally equivalent to not donating to famine relief in order to buy expensive new shoes (or a fancy dinner).
(C1) Therefore, not donating to famine relief in order to buy expensive new shoes (or a fancy dinner) is morally wrong.

Practice Exercise #2.2

For each of the following topics, select one of the two conclusions offered, circle it, and then construct a valid argument for that conclusion. Lastly, symbolize the argument, and indicate whether it is a principled argument or an analogical argument.

0. Should the death penalty be abolished?		**Sym.**	**Form?**
(P1)	Our continued use of the death penalty will result in the execution of innocent people.	A→B	Principle
(P2)	If our continued use of something will result in the execution of innocent people, then that thing should be abolished.	B→C	
(C1)	Therefore, the death penalty [**should**] / [should not] be abolished.	A→C	

1. Is recreational drug use morally wrong?		**Sym.**	**Form?**
(P1)			
(P2)			
(C1)	Recreational drug use is morally [wrong] / [permissible].		

2. Is trophy hunting morally wrong?		**Sym.**	**Form?**
(P1)			
(P2)			
(C1)	Trophy hunting is morally [wrong] / [permissible].		

3. Is buying and eating factory-farmed meat morally wrong?		**Sym.**	**Form?**
(P1)			
(P2)			
(C1)	Buying and eating factory-farmed meat is morally [wrong] / [permissible].		

4. Is testing medical products on animals morally wrong?		**Sym.**	**Form?**
(P1)			
(P2)			
(C1)	Testing medical products on animals is morally [wrong] / [permissible].		

5. Should the sale and/or purchase of semiautomatic weapons be prohibited?		**Sym.**	**Form?**
(P1)			
(P2)			
(C1)	The sale and/or purchase of semiautomatic weapons [should] / [should not] be prohibited.		

Practice Exercise #2.2 (example answers)

For each of the following topics, select one of the two conclusions offered, circle it, and then construct a valid argument for that conclusion. Lastly, symbolize the argument, and indicate whether it is a principled argument or an analogical argument.

0. Should the death penalty be abolished?		**Sym.**	**Form?**
(P1)	Our continued use of the death penalty will result in the execution of innocent people.	A→B	Principle
(P2)	If our continued use of something will result in the execution of innocent people, then that thing should be abolished.	B→C	
(C1)	Therefore, the death penalty [**should**] / [should not] be abolished.	A→C	

1. Is recreational drug use morally wrong?		**Sym.**	**Form?**
(P1)	Recreational drug use hinders your ability to be rational.	A→B	Principle
(P2)	If an act hinders your ability to be rational, then that act is morally wrong.	B→C	
(C1)	Recreational drug use is morally [wrong] / [permissible].	A→C	

2. Is trophy hunting morally wrong?		**Sym.**	**Form?**
(P1)	Trophy hunting benefits the environment more than it harms it.	A→B	Principle
(P2)	If an act benefits the environment more that it harms it, then it is morally permissible.	B→C	
(C1)	Trophy hunting is morally [wrong] / [permissible].	A→C	

3. Is buying and eating factory-farmed meat morally wrong?		**Sym.**	**Form?**
(P1)	Hiring a hitman to torture and kill an animal is morally wrong.	A→B	Analogy
(P2)	Hiring a hitman to torture and kill an animal is morally equivalent to buying and eating factory-farmed meat.	A = C	
(C1)	Buying and eating factory-farmed meat is morally [wrong] / [permissible].	C→B	

4. Is testing medical products on animals morally wrong?		**Sym.**	**Form?**
(P1)	Testing medical products on animals has the potential to save lives.	A→B	Principle
(P2)	If an action has the potential to save lives, then it is morally permissible.	B→C	
(C1)	Testing medical products on animals is morally [wrong] / [permissible].	A→C	

5. Should the sale and/or purchase of semiautomatic weapons be prohibited?		**Sym.**	**Form?**
(P1)	The sale and purchase of semiautomatic weapons increases gun deaths.	A→B	Principle
(P2)	If an act increases gun deaths, then that act should be prohibited.	B→C	
(C1)	The sale and/or purchase of semiautomatic weapons [should] / [should not] be prohibited.	A→C	

I. Examples and Thought Experiments

An ***example***, for our purposes, is an *actual case* that provides support for some claim. A ***thought experiment*** is simply a *hypothetical example*. We'll be using examples and thought experiments to elicit *intuitions*. Those intuition, in turn, will be used to provide support for moral claims.

Let's say you're arguing for the view that it should, in at least in some cases, be *legal* for U.S. armed forces to assassinate foreign leaders. In support of this claim, you give the following argument:

(P1) It is sometimes morally permissible for U.S. forces to assassinate foreign leaders.
(P2) If an act is morally permissible, then it should be legally permissible.
(C1) Therefore, it should sometimes be legally permissible for U.S. forces to assassinate foreign leaders.

Now, imagine that your interlocutor questions (P1). "Is that actually true?" he asks. In response, you might give an *example* of a real-life U.S.-sanctioned assassination attempt that your opponent will think was morally permissible. For instance, you might point to the assassination of Osama Bin Laden.

At this point in the argument, your interlocutor might grant that the assassination of Osama Bin Laden is an example of a real-life U.S. assassination of a foreign leader that was morally permissible. Or she might not. Maybe your interlocutor doesn't think that Osama Bin Laden was a foreign leader, or maybe your interlocutor doesn't think that Osama Bin Laden was sufficiently evil or sufficiently dangerous to justify the U.S.'s attempt to assassinate him.

In that situation, you might try to come up with a *thought experiment* to provide support for (P1). This would be a thought experiment. For instance, you might ask your interlocutor the following: "Wouldn't it have been morally permissible for President Franklin Delano Roosevelt to have sanctioned a U.S. special forces operation to assassinate Hitler?"

This is a *thought experiment* because you're having your interlocutor imagine a hypothetical case, and you expect him or her to have a certain reaction to it.

- Your interlocutor could probably give a quick answer to this question, even before he thinks it through carefully. This is an *intuition*.
- If your interlocutor thinks that it would have been morally permissible for FDR to have sanctioned the assassination of Hitler, then this thought experiment provides support for (P1). If, however, your interlocutor thinks that it would *not* have been morally permissible for FDR to have sanctioned the assassination of Hitler, then this thought experiment does not provide support for (P1).
- Of course, just because someone has an intuition that something is true doesn't mean that it is. But it's the best way we have to try to convince others of certain moral principles.

We will often use examples/thought experiments to provide others with evidence for certain moral principles and then use those principles to support the conclusions we are arguing for.

- The thought experiment above, for example, provides others with evidence for the claim that it is sometimes morally permissible for U.S. armed forces to assassinate foreign leaders, and we can use that claim to argue for the conclusion that it should sometimes be legally permissible for U.S. armed forces to assassinate foreign leaders.

II. Constructing Thought Experiments

1. *Isolate the view for which you're arguing, and make sure you understand it.*
    - Let's assume that you're arguing that stealing is sometimes morally permissible.
2. *Figure out what you need to demonstrate in order to support that view.*
    - To show that stealing is sometimes morally permissible, you need an example or a thought experiment where:
        i. someone steals something
        ii. that person's theft is morally permissible
    - Be careful! If you're arguing that stealing is sometimes *morally permissible*, you need a situation where stealing seems to be *morally* permissible, not (a) a case in which stealing seems to be *legally* permissible or (b) a case in which stealing seems to be *in one's best interest*.
3. *Use your imagination to come up with a couple cases that seem to support your view.*
    - Make sure your example or thought experiment is detailed enough to provide others with a reason to believe your view without including irrelevant details.
        - **Err on the side of giving more details than necessary.**
    - Here's a thought experiment that supports the claim that stealing is sometimes morally permissible:
        - Beth and her young children are poor and malnourished. Beth sees an opportunity to steal some bread from a successful bakery, and she takes it. Intuitively, Beth's behavior is morally permissible, which suggests that stealing is sometimes morally permissible.
    - Although this thought experiment is okay, it could be better. For instance, it would be nice to know how Beth and her children ended up poor and malnourished in the first place. If Beth is to blame for their plight, it is less obvious that her stealing is morally permissible. So, we might alter the thought experiment above as follows:
        - Through a series of unfortunate events, Beth and her young children find themselves poor and malnourished. Beth sees an opportunity to steal some bread from a successful bakery, and she takes it. Intuitively, Beth's behavior is morally permissible, which suggests that stealing is sometimes morally permissible.
    - While it might not matter how Beth and her children ended up poor and malnourished, it might. Thus, the preceding alteration is a good one. It is now more plausible that Beth's stealing is morally permissible than it was before. I should note that there are other ways to accomplish the same goal. Below is a thought experiment that gives the reader the sense that the plight of Beth and her children is not Beth's fault, but it does it differently, namely, by describing Beth and her children's background in more detail.
        - Beth, Beth's husband, and their young children recently moved to a new town, away from family and friends. Shortly thereafter, Beth's husband died. Given Beth's lack of education, it was impossible for her to find a job that enabled her to pay for childcare. She was forced to stay at home with her kids. Moreover, the government erroneously denied her application for welfare. At this point, Beth and her children are living on the street, and they are malnourished. Beth sees an opportunity to steal some bread from a successful bakery, and she takes it. Intuitively, Beth's behavior is morally permissible, which suggests that stealing is sometimes morally permissible.

- Although some thought experiments are better than others, there isn't necessarily a "best" or "ideal" thought experiment for a particular view. The last two thought experiments I gave are both pretty good.
- Also note that just because one example or thought experiment is more detailed than another doesn't mean it's better. For example, if I tell you what color Beth's hair is, that would make the thought experiment more detailed, but it wouldn't make the thought experiment any better (because the color of Beth's hair is morally irrelevant).
- Finally, although each of the thought experiments we have discussed only involves one case, thought experiments can involve multiple cases.
    - For example, a famous thought experiment compares two uncles, one of whom drowns his nephew to get his inheritance and the other of whom lets his nephew drown to get his inheritance. In these cases, everything is kept the same except for the way in which the nephew dies. Given that we think the two uncles are equally evil, we are supposed to conclude that there is no moral difference between killing (e.g., drowning) and letting die (e.g., letting drown).
        - Here we see that a good thought experiment, like a good science experiment, allows us to isolate a variable and see what happens when we make small changes to it.

4. *Once you have come up with a couple cases that seem to support your view, determine which one is most convincing and go with it. You might also think about how you might tweak your case to make it as convincing as possible.*

III. Analogies

Another way to use an example or a thought experiments is as the centerpiece of an *analogical argument*. In an analogical argument, someone identifies an example or a thought experiment to evoke some intuitive judgment in her audience. Then, that person contends that her example/thought experiment is analogous (i.e., similar in all the relevant ways) to some other case. Finally, the author concludes that her audience's intuitive judgment about the example/ thought experiment should apply to the other case as well.

- For example, most people think it's perfectly permissible to eat animals. If asked why it's permissible to do so, some might justify their behavior by pointing out that they are much more intelligent than animals. But imagine that super-intelligent aliens flew to Earth and started eating humans. In that case, I imagine we would criticize their behavior. But what if they justified their behavior by pointing out that they are much more intelligent than we are. Would we accept that justification? Presumably not. Richard David Precht uses this analogy to argue that it is wrong to eat animals.

Practice Exercise #3.1

List the two features that an example or thought experiment must have in order to support the conditional statement provided. Then, give an example or a thought experiment that supports that statement. ***Your example/thought experiment should make the conditional statement's antecedent true and its consequent true.***

If a polygon is a rectangle, then it's a square.

i. a polygon that is a rectangle

ii. a polygon that is a square

If someone is unmarried, then he or she is a bachelor.

i. someone who is unmarried

ii. he or she is a bachelor

-John Cusack, Leonardo DiCaprio, Jake Gyllenhaal, etc.

1. If an argument is valid, then its conclusion is true.
   i. _____
   ii. .....

   (P1)
   (P2)
   (C1)

2. If someone steal someone else's property, then he or she has harmed that person.
   i. _____
   ii. .....

3. If someone lies, then he or she has done something morally wrong.
   i. _____
   ii. .....

4. If someone disobeys his or her parent, then he or she has done something morally wrong.
   i. _____
   ii. .....

5. If someone punches someone else, then he or she has done something morally wrong.
   i. _____
   ii. .....

Practice Exercise #3.1 (example answers)

List the two features that an example or thought experiment must have in order to support the conditional statement provided. Then, give an example or a thought experiment that supports that statement. ***Your example/thought experiment should make the conditional statement's antecedent true and its consequent true.***

If a polygon is a rectangle, then it's a square.

i. a polygon that is a rectangle
ii. that polygon is also a square

If someone is unmarried, then he or she is a bachelor.

i. someone who is unmarried
ii. that person is also a bachelor

-John Cusack, Leonardo DiCaprio, Jake Gyllenhaal, etc.

1. If an argument is valid, then its conclusion is true.
   i. an argument that is valid
   ii. that argument's conclusion is true

   (P1) If Ada is in Ohio, then Ada is in the United States.
   (P2) Ada is in Ohio.
   (C1) Therefore, Ada is in the United States.

2. If someone steals someone else's property, then he or she has harmed that person.
   i. someone steals someone else's property
   ii. he or she harms that other person

   -Imagine you steal your neighbor's University of Michigan hat or his or her car because it has a Warriors license plate frame on it. In either case, you've harmed your neighbor.

3. If someone lies, then he or she has done something morally wrong.
   i. someone lies
   ii. that person has done something morally wrong

   -Imagine that Taylor Swift is performing nearby tomorrow, and someone you don't like asks you when the concert is. Although you know the concert starts at 8:00, you tell him it starts at 10:00 so that he misses it. In that case, you've done something morally wrong.
4. If someone disobeys his or her parent, then he or she has done something morally wrong.
   i. someone disobeys his or her parents
   ii. that person has done something morally wrong

   -Imagine that your parents tell you to not to light your neighbor's house on fire, but you disobey them because your neighbors are Pittsburgh Steelers fans. In that case, you have done something morally wrong.
5. If someone punches someone else, then he or she has done something morally wrong.
   i. someone punches someone else
   ii. that person has done something morally wrong

   -Imagine that you punch your boss in the shoulder as hard as you can, just because she likes the Minnesota Twins. In that case, you've done something morally wrong.

IV. Counterexamples

A ***counterexample*** is an example (actual or hypothetical) that provides evidence against some claim. For example, imagine someone claiming that *there has never been an NBA player under 6 feet tall*. Someone like *Muggsy Bogues* or *Spud Webb*, NBA players who were under 6 feet tall, would be counterexamples to this view.

Counterexamples help us figure out what not to believe. The existence of NBA players who were under 6 feet tall, for examples, helps us see that we should not believe that *there has never been an NBA player under 6 feet tall*. It also helps us to figure out what we should believe insofar as it gives us a new view to evaluate, namely, the view that *there has never been an NBA player under 5 feet, 3 inches tall* (because Muggsy Bogues was 5 feet, 3 inches tall).

V. Constructing Counterexamples

1. *Identify the view you're trying to disprove, and make sure you understand it.*
    - Let's assume that you're trying to disprove the view that stealing is always morally wrong.
2. *Figure out what you need to demonstrate in order to disprove that view.*
    - In order to disprove the view that *stealing is always morally wrong*, you don't need to show that stealing is *always* morally permissible. You just need to show that there is one case in which stealing is morally permissible. To do that, you need a case where:
        i. someone steals something
        ii. that person's act is morally permissible
    - Be careful! If you're trying to disprove the view that stealing is always morally wrong, you need an example in which stealing is *morally* permissible, not (a) an example in which stealing is *legally* permissible or (b) an example in which stealing is *in your best interest*.
3. *Use your imagination to come up with a couple cases that seem to disprove the view you're trying to disprove.*
    - Make sure your counterexample is detailed enough to demonstrate what you need to demonstrate, but try to avoid including irrelevant details.
        - **Err on the side of giving more details than necessary.**
4. *Once you have come up with a couple cases that seem to disprove the view you're trying to disprove, determine which one is most convincing and go with it. You might also think about how you might tweak your case to make it as convincing as possible.*
    - Although some counterexamples are better than others, there isn't necessarily a "best" or "ideal" counterexample to a particular view. If you have come up with multiple examples that almost everyone would agree disprove the view you're trying to disprove, determine which one you think will convince your audience and go with it.
        - Here's a counterexample to the claim that stealing is always morally wrong:
            - *Imagine that you see a neo-Nazi who is carrying a gun. You ask him if you can see it, and he hands it to you. Once you've got it, you run away as fast as you can. In that case, you've stolen something, but you haven't done anything morally wrong.*

Practice Exercise #3.2

List the two features that a counterexample must have in order to disprove the conditional statement provided. Then, give a counterexample that disproves that statement. ***Your counterexample should make the conditional statement's antecedent true and its consequent false.***

If a polygon is a rectangle, then it's a square.

i. a polygon that is a rectangle
ii. that polygon is **not** a square

If someone is unmarried, then he or she is a bachelor.

i. someone who is unmarried
ii. he or she is **not** a bachelor

- Babies and children (e.g., Prince George and North West), unmarried women (e.g., Taylor Swift), Pope Francis, and men that have been divorced (e.g., Tom Cruise)

1. If an argument is valid, then its conclusion is true.
   i. _____
   ii. .....

   (P1)
   (P2)
   (C1)

2. If someone steal someone else's property, then he or she has harmed that person.
   i. _____
   ii. .....

3. If someone lies, then he or she has done something morally wrong.
   i. _____
   ii. .....

4. If someone disobeys his or her parent, then he or she has done something morally wrong.
   i. _____
   ii. .....

5. If someone punches someone else, then he or she has done something morally wrong.
   i. _____
   ii. .....

Practice Exercise #3.2 (example answers)

List the two features that a counterexample must have in order to disprove the conditional statement provided. Then, give a counterexample that disproves that statement. ***Your counterexample should make the conditional statement's antecedent true and its consequent false.***

If a polygon is a rectangle, then it's a square.

i. a polygon that is a rectangle
ii. that polygon is **not** a square

If someone is unmarried, then he or she is a bachelor.

i. someone who is unmarried
ii. he or she is **not** a bachelor

- Babies and children (e.g., Prince George and North West), unmarried women (e.g., Taylor Swift), Pope Francis, and men that have been divorced (e.g., Tom Cruise)

1. If an argument is valid, then its conclusion is true.
   i. an argument that is valid
   ii. that argument's conclusion is **not** true

   (P1) If Ada is in Ohio, then Ada is in Canada.
   (P2) Ada is in Ohio.
   (C1) Therefore, Ada is in Canada.

2. If someone steal someone else's property, then he or she has harmed that person.
   i. someone steals someone else's property
   ii. he or she has **not** harmed that other person

   -Imagine that someone steal something that you were already planning to give away (e.g., an old watch). In that case, you weren't harmed.

3. If someone lies, then he or she has done something morally wrong.
   i. someone lies
   ii. that person has **not** done anything morally wrong

   -Imagine that a murderer comes to your friend's door looking for you. Although your friend knows that you are in her basement, she lies to the murder, telling him that you just moved to California. In that case, your friend hasn't done anything morally wrong.

4. If someone disobeys his or her parent, then he or she has done something morally wrong.
   i. someone disobeys his or her parents
   ii. that person has **not** done anything morally wrong

   -Imagine that your parents tell you to do something evil (e.g., to torture an innocent baby for fun), but you disobey them. In that case, you haven't done anything morally wrong.

5. If someone punches someone else, then he or she has done something morally wrong.
   i. someone punches someone else
   ii. that person has **not** done anything morally wrong

-Imagine that you are boxing with Manny Pacquiao. After blocking a few of his punches, you hit him with an uppercut. In that case, you haven't done anything morally wrong.

HABIT #1
INTELLECTUAL COURAGE

What is courage?
Courage is a disposition to take physical risks that are worth taking. It requires a willingness to subject one's body to physical harm in hopes of securing significant goods and/or avoiding significant evils. A paradigmatic example of courage would be rushing onto a battlefield to help an injured soldier or rushing into a burning building to save a young child. A more commonplace example of courage would be sticking up for a friend or sibling who is being bullied.

What is *intellectual* courage?
Intellectual courage is a disposition to take *intellectual* risks that are worth taking. It requires a willingness to subject one's beliefs to critical scrutiny in hopes of securing significant goods and/or avoiding significant evils. Asking a peer to give you critical feedback on a draft of a paper would be one example of intellectual courage. Writing a controversial tweet that conflicts with what most of your Twitter followers think (in hopes of changing their minds) would be another.

What intellectual courage is not
Virtues, like courage and intellectual courage, are "means" that lie between extremes. Courage, for example, lies between cowardice on one hand and rashness on the other. Someone who is cowardly feels too much fear, and someone who is rash feels too little fear. Someone who is courageous feels the appropriate amount of fear. Intellectual courage works the same way. It lies between intellectual cowardice and intellectual rashness. Someone who is intellectually cowardly feels too much fear, and someone who is intellectually rash feels too little fear. Someone who is intellectually courageous feels the appropriate amount of fear. Let's imagine that you've recently been convinced that it's morally wrong to buy and eat factory-farmed meat. If you're intellectually cowardly, you will keep that opinion to yourself in fear of being either proven wrong or socially ostracized. If you're intellectually rash, you will bring it up all the time, even while your family is eating factory-farmed turkey at Thanksgiving dinner, without regard for the fact that you might be wrong or that you might be ostracizing others.

What is intellectual courage good for?
Although intellectual courage makes you vulnerable to harm, it enables you to secure significant goods and/or avoid significant evils. In particular, intellectual courage (i.e., subjecting your beliefs to critical scrutiny) helps you evaluate whether your beliefs are true or false and, therefore, to abandon false beliefs in favor of true ones. Intellectual courage also has the potential to get others to reflect on their beliefs and to abandon their false ones in favor of true ones. In extreme cases, you might end up losing relationships that are important to you. However, you are equally, if not more likely to strengthen your current relationships and/or develop new and better ones.

In John Stuart Mill's book *On Liberty*, Mill makes the following argument for intellectual courage:

(P1) Each of your beliefs is either true or false.
(P2) If a belief is true, then in subjecting it to critical scrutiny, you'll get a better sense for why it's true and help others see that it's true.
(P3) If a belief is false, then in subjecting it to critical scrutiny, you'll learn that it's false and be able to abandon it in favor of the truth.
(C1) Therefore, you should subject all of your beliefs to critical scrutiny.

How do I develop intellectual courage?
We develop virtues, like courage, through habituation/practice. I imagine that the first time that a firefighter runs into a burning building, he or she is pretty scared. But over time, that fear

subsides. This what psychologists call *exposure therapy*, and they use it all the time to help people get over their fears. Are you afraid of spiders? If so, you need to spend more time around spiders. And once you've done that, then maybe you need to spend some time holding a spider. This isn't fun, but it's effective. Developing intellectual courage works the same way. Are you afraid of subjecting your beliefs to critical scrutiny? If so, you need to spend more time doing it. Share your controversial ideas with family and friends who agree with you. Then, share those ideas with family and friends who disagree with you. Once you've done these things, you're ready to share your ideas with people you know less well. Maybe you're ready to share a paper with a peer or to visit your professor's office hours to see what he or she thinks about your ideas. This isn't necessarily fun, but it's effective and can be hugely beneficial.

HABIT #2
INTELLECTUAL EMPATHY

What is intellectual empathy?

Empathy involves the ability to appreciate the feelings of someone who feels differently than you.

- This involves both:
    1. understanding how he or she feels and
    2. understanding why he or she feels that way.

Analogously, *intellectual empathy* involves the ability to appreciate the beliefs of someone who believes differently than you.

- This involves both:
    1. understanding what he or she believes and
    2. understanding why he or she believes those things.

What intellectual empathy is not

Empathy does not require one to believe that another person's feelings are all-things-considered justified.

- For example, I can understand why someone is angry with her parents for punishing her (for staying out late) without thinking that her anger is all-things-considered justified.

Similarly, intellectual empathy does not require one to believe that another person's beliefs are all-things-considered justified.

- For example, I can understand why someone believes that murderers deserve capital punishment without thinking that capital punishment is all-things-considered justified.

A disanalogy

On top of the two features listed above, empathy involves adopting the feelings of someone who feels differently than you.

- For example, emotionally empathizing with someone who is sad involves feeling sad yourself.

Intellectual empathy, however, does not involve adopting the beliefs of someone who believes differently than you.

- For example, you do not need to believe that murderers deserve capital punishment in order to intellectually empathize with someone who believes that.

What is intellectual empathy good for?

Intellectual empathy enables us to understand why others believe what they do. Thus, it helps us to form true beliefs.

- Every belief you disagree with is either true or false.
    - If it's true, then presumably, as you come to understand why someone would hold it, you'll see that there are good reasons for holding it.
        - This will make you less confident of the false belief that you currently hold and more confident of the true belief.
    - If it's false, then presumably, as you come to understand why someone would hold it, you'll see that there aren't good reasons for holding it.
        - This will make you less confident of the false belief and more confident of the true belief that you currently hold.

Intellectual empathy can also improve our relationships.

- No one likes it when others dismiss their beliefs offhand. So, developing intellectual empathy will make you more likeable.

How do I develop intellectual empathy?

1. Ask yourself why someone might hold a view you disagree with, and spend some time thinking about it. An answer might not come to you right away.
2. Have a (verbal or written) conversation with yourself in which you play both the part of your real self and the part of the person with whom you disagree. (You say something. The person with whom you disagree responds. You respond to that response. Etc.)
3. Read the works of people with whom you disagree, or talk to them (on Google Classroom!), paying close attention to what they believe and why they believe it.
4. Try to explain to someone with whom you disagree what her view is and why she holds it. Then, have her tell you what she would change about the way you described her view.

This is hard! ☹

At first, it's hard to be intellectually empathetic, but it gets easier with practice.

HABIT #3
INTELLECTUAL HUMILITY

What is intellectual humility?

Humility involves the ability to accurately assess one's own value.

- This involves both:
    1. not *overstating* one's value and
    2. not *understating* one's value.

Similarly, *intellectual humility* involves the ability to accurately assess how likely it is that one's beliefs are true.

- This involves both:
    1. not *overstating* how likely it is that one's beliefs are true and
    2. not *understating* how likely it is that one's beliefs are true.

What intellectual humility is not

Humility does not require one to understate one's value.

- For example, if I frame a house and someone claims that I built the house, I do not need to suggest that I made no contribution whatsoever to building the house.

Similarly, intellectual humility does not require one to understate how likely it is that one's beliefs are true.

- For example, if I show that we have a good reason to think that buying and eating factory-farmed meat is wrong, I do not need to suggest that buying and eating factory-farmed meat is, nevertheless, probably permissible.

What is intellectual humility good for?

Intellectual humility prevents one from overstating how likely it is that one's beliefs are true.

- This makes others more inclined to accept our current opinions.
- It also makes others more inclined to accept our future opinions.

Intellectual humility can also improve our relationships.

- No one likes it when others overstate their value and/or significance. So, developing intellectual humility will make you more likeable.

How do I develop intellectual humility?

1. Intellectual humility requires a thorough understanding of the debate you're engaged in, so you should do what you can to get as thorough an understanding of that debate as you can.
2. Intellectual humility also requires acknowledging that small contributions to a debate, though less sexy than large contributions, are still valuable. You should not be ashamed to admit that your contribution to a debate isn't as significant as someone else's.
3. Finally, intellectual humility requires understanding what will (and will not) convince your opponents, so talk to your opponents about your thesis. See if they are willing to accept it and/or whether it is possible to weaken it a bit and still make a significant contribution to the debate in question.

This is hard! ☹

At first, it's hard to be intellectually humble, but it gets easier with practice.