PHI 1100: Ethics & Critical Thinking

Session 2
January 30th, 2020

Intro to Critical Thinking:
Types of Reasoning, Fundamentals of Argumentation
Today we will begin our study of reasoning, which we can define as:

- mental activity which aims to arrive at a judgment or conclusion that is justified by evidence/reasons

This session will lay a groundwork of fundamental concepts about reasoning, which we will elaborate upon much more as the semester progresses.

We’ll discuss the basics of argumentation, which will allow us to recognize & analyze arguments we come across in the next few weeks of class.

Later in the course, we’ll build upon this foundation in order to evaluate arguments (that is, determine if they contain good or bad reasoning.)
**reasoning** = mental activity which aims to arrive at a judgment or conclusion that is justified by evidence/reasons

Some of our reasoning occurs automatically & unconsciously:
- E.g., you arrive at the judgment that the face to the right belongs to Barack Obama without experiencing yourself mentally working through any reasons why this is the case.

Other forms of reasoning take place in our conscious experience (often in the form of “inner speech”), and seem to be under our control.

- Most of ”critical thinking” focuses on optimizing conscious reasoning that is under our control,
  - though recent trends in this subject include:
    - finding balance between automatic & controlled reasoning
    - exploring the extent to which we can adjust or retrain our unconscious reasoning
When we need to share our reasoning with other people (often in order to convince them to agree with our conclusion), we find words to express our reasoning in language (speech or writing).

In other words, we make an argument:

- an expression of reasoning in which one defends (supplies justification for) a conclusion by articulating reasons why it is appropriate to believe that the conclusion is true.

As a college student, you’re surely familiar with making arguments in a thesis-driven essay or research paper,

• but we also make arguments all the time in casual settings. E.g.:

  - “There are delays on the NRQW line today. We should leave ourselves extra time to get to the Barclays Center.”
  - “You should take PHI 1100 because it’s taught by the best professors at Baruch.”

  The common thread between these instances of argumentation is that you don’t merely state what you believe is true:
  • you support your conclusion so that other people can understand why you believe it is true.
an argument:
- an expression of reasoning in which one defends (supplies justification for) a conclusion by articulating reasons why it is appropriate to believe that the conclusion is true.

We can distinguish argumentation from other uses of language, such as:

- **interrogation** (asking a question): “Is PHI 1100 a good class to take?”
- **insisting/demanding** (issuing a command): “Take PHI 1100!”
- **expressing emotion/opinion** (indicating one’s attitudes): “Yay PHI 1100!”
- **exposition** (providing information without intending to persuade a reader/listener that the information is true): “PHI 1100 is a course at Baruch on ethics & critical thinking”

• In contrast to each of the utterances above, “PHI 1100 is a good class to take because it will help you develop the habits of a responsible thinker” is an argument,
  • since it provides a reason (it will help you develop the habits of a responsible thinker) in support of a conclusion (PHI 1100 is a good class to take).
Philosophers often distinguish between three types of arguments that differ in the intended relationship between the reasons & the conclusion:

- **Deductive arguments** provide reasons that are meant to **guarantee** that their conclusions are true.

- **Inductive arguments** provide reasons that are meant to **convince others that their conclusions are likely** (but not guaranteed) to be true.

- **Abductive arguments** (a.k.a. arguments to the best explanation) provide reasons that are meant to **convince others** about the most likely cause for an observed phenomenon.

Because these three types of arguments have different objectives,
- they are **held to different standards of evaluation regarding how well they support the truth of their conclusion.**
  - ...but we’ll get to that later in the course.
Moreover, we can differentiate between types of arguments on the basis of different aims/goals/purposes they serve for the arguer.

We can identify **three major categories of reasoning** that arguments generally belong to, each with **different purposes**:

- **Epistemic** reasoning aims to derive **conclusions that are true**
  - in order **to hold true beliefs**.

- **Ethical** reasoning aims to derive **conclusions about the right way to act**
  - in order **to be a morally good person**.

- **Practical** reasoning aims to derive **conclusions about what we ought to do**
  - in order **to fulfill personal goals**
    (e.g. health, wealth, happiness… basically anything **other** than true beliefs or moral goodness)
...three major categories of reasoning with different purposes:

- **Epistemic reasoning** aims at conclusions that are true
  - to hold true beliefs.

- **Ethical reasoning** aims at conclusions about the right way to act
  - to be a morally good person.

- **Practical reasoning** aims at conclusions about what we ought to do
  - to fulfill personal goals
    - (…anything other than true beliefs or moral goodness)

These categories are **not** mutually exclusive:

- It is *not* the case that if an instance of reasoning belongs to one category, it cannot belong to the others.
- A particular instance of reasoning could serve more than one of these purposes.

  E.g., the filmmakers in the (fictional mockumentary) show *American Vandal* want to figure out who the real vandal is
  
  a) to know the truth about what happened
  
  b) to make sure an innocent person was not wrongly punished for a crime they did not commit
  
  c) to make an entertaining true-crime drama

  - **video:** bit.ly/2MKdDED
In philosophy, **each reason** provided in support of a conclusion is called a **premise**.

- You can detect **an argument** in someone’s speech or writing by identifying **a) at least one premise & b) a conclusion**.

  ➢ **Premises are often preceded by** particular signals or “flags”: *because, since, given that, for, assuming that, as shown by*

    Baruch College is the best school in the CUNY system
    …given that it has the most dedicated student body.
    …because it has excellent instructors.
    …since it has the most selective admissions process.
    …for ___ [your premise of choice]_____.

  ➢ **Conclusions typically come after** words like *thus, therefore, hence, it follows that, so, consequently*

    Philosophy is fascinating
    …therefore this class will probably be your favorite.
    …hence you’re in for a great semester.
    …so ____[your conclusion of choice]_____.

To write an argument in **standard argument form**, 

1) assign a number to each premise (P1, P2, P3…)
2) mark the conclusion with a ”C”
3) list each premise on a separate line above a solid horizontal line
4) write the conclusion underneath the line.

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**e.g.:**

<table>
<thead>
<tr>
<th>P1</th>
<th>Baruch College has the best students in the CUNY system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2</td>
<td>Baruch College has the best instructors in the CUNY system.</td>
</tr>
</tbody>
</table>

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[C] Baruch College is the best CUNY college.

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Note that **the conclusion of one argument can be a premise in a different argument** (and vice versa):

<table>
<thead>
<tr>
<th>P1</th>
<th>Baruch College is the best CUNY college.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2</td>
<td>You are a student at Baruch College.</td>
</tr>
</tbody>
</table>

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[C] You are a student at the best CUNY college.

---

➢ So: what makes a statement a **premise** or a **conclusion** is not what it says, but *how it is used* in the arguer’s reasoning.
For now,

- all you need to know about evaluating arguments is that
  - **good arguments have true premises.**

In the argument above, [P2] is definitely true,
- but [P1] is *not obviously true*: it could use some support, as well as clarification about what is meant by “best” in this context.

  – Note: **just because [P1] is an evaluative claim**
    » (it expresses a judgment about *value*
      – whether something is good or bad, & to what degree)
    …does not mean that it couldn’t possibly be true, and is only a matter of opinion.
- (Next week, we’ll discuss a debate over whether evaluative claims about morality can be *true.*)
How can you tell if someone is defending a conclusion?

Here are some heuristics

– (rules of thumb; methods of getting a result that don’t always work, but are generally better than no method at all)

for identifying when someone is arguing for a conclusion:

1) **Find the most controversial statement in the passage.**
   - If a statement is not yet widely agreed upon as a fact, the speaker may be motivated to defend it as true.
     - (A controversial statement may be offered as a reason for the conclusion,
       - in which case it’s probably *not* a good reason, since it isn’t obviously and/or uncontroversially true!)

2) **Find the statement that seems to adopt a particular position in a debate.**

3) **Find the statement whose truth seems to depend upon information provided elsewhere in the passage.**
What qualifies as a reason to believe a conclusion is true?

- This question turns out to be surprisingly hard to answer without giving a response that is circular (which presupposes that we already know the answer to the question)!
  - We might be tempted to say that a reason provides information that, if it is true, gives us reason to believe that the conclusion is true
  » ...but that doesn’t really move us any closer to understanding what a reason is,

- because it would define “reason” using the word “reason”, the meaning of which we are trying to determine!

- Often, judging that X is a reason for Y seems like a pretty intuitive process:
  - we generally have a sense for what kind of information provides support for a particular type of conclusion.
    - Much like former Supreme Court Justice Potter Stewart’s famous answer to the question of what counts as pornography,
      » a reason is the kind of thing about which we might say, “I know it when I see it” (Wikipedia: bit.ly/35P4Eaa)
What qualifies as a reason to believe a conclusion is true? (continued)

• One thing we can say is that a reason is relevant to the conclusion:
  » the information it contains, such as

2+2 = 4

• items of “common knowledge”,
  general principles,
  empirical evidence (obtained through the use of one’s senses),
  testimony (information conveyed by another person),
  experimental findings,
  statistics, etc.

  …is closely related to the conclusion.

However, relevant information can count for or against the truth of the conclusion:

➤ An objection is a statement containing information that supports rejecting the conclusion, rather than accepting it as true.

• Sometimes arguers mention an objection to their own conclusion in order to dismiss or counteract it with other information.

  » So, the relevance of the statement to the conclusion is not enough to guarantee that the statement is a reason to believe the truth of the conclusion.
(SMALL GROUP) EXERCISE: For each conclusion (1-3), mark each option (a-c) “yes” if it’s a reason to believe the conclusion is true, “no” if not, and “maybe” if you’re not sure.

1. When choosing someone for a job, employers should base their decision on the applicants’ personalities, rather than on their skills.
   a) Personalities may change over time, and skills go out of date.
   b) Skills can easily be taught, but personalities are difficult to change.
   c) Some skills cannot be acquired by everyone, but everyone can develop a good personality.

2. Playing video games can be beneficial for children.
   a) Children who play video games are less interested in reading.
   b) The visual skills of children improve when they first start playing video games.
   c) Watching cartoons has no more educational value for children than playing video games.

3. NYC should eliminate the SHSAT (Specialized High School Admissions Test).
   a) The test lasts for 3 hours.
   b) The test is biased against minority candidates.
   c) The admissions process for Specialized High Schools should be fair.
(SMALL GROUP) EXERCISE: For each conclusion (1-3), mark each option (a-c) “yes” if it’s a reason to believe the conclusion is true, “no” if not, and “maybe” if you’re not sure.

1. When choosing someone for a job, employers should base their decision on the applicants’ personalities, rather than on their skills.

   a) Personalities may change over time, and skills go out of date.
   b) Skills can easily be taught, but personalities are difficult to change.
   c) Some skills cannot be acquired by everyone, but everyone can develop a good personality.

   – c) is an objection to 1.: it gives us information that (if it is true) supports rejecting the conclusion in favor of an opposing view
     • (that employers should hire on the basis of skills instead of personality)

   – a), though perhaps a bit trickier, is also an objection to 1.: it gives information that supports rejecting the conclusion (personalities may change over time), even though it doesn’t support the opposing view, either.

   » If it counts against the truth of the conclusion, regard a statement as an objection.
What qualifies as a reason to believe a conclusion is true? (cont.)

• If you:
  – marked any of the options on the previous slide as “maybe”, or
  – didn’t agree with your groupmates about which options qualify as reasons for their conclusions,
  it might be because
  – the arguer seems to believe it’s a reason for the conclusion, but you’re not so sure that it actually supports the truth of the conclusion.

Whether or not X is a reason for Y is something critical thinkers can disagree about!

➢ Just because information is presented as a reason for a conclusion does not mean that it actually functions as a reason, i.e., makes it appropriate to believe that the conclusion is true.

• An important component of evaluating arguments is assessing the extent to which an arguer’s reasons really do support the truth of the conclusion.
What qualifies as a reason to believe a conclusion is true? (cont.)

• Though people may disagree about whether X is a reason for Y,
  – In order to tell when someone is making an argument,
    ➢ we need to be able to determine when the arguer thinks they are giving a reason that supports their conclusion.

When attempting to extract arguments from speech or text, put yourself in the mindset of the speaker/author:

» If they seem to think that X is a reason for Y, identify X as a reason for Y, and treat what they’re saying as an argument.

• (If you don’t agree with the arguer that X is a reason for Y,
  • you can regard X as a bad reason,
  • and can critique the argument for offering a poor source of support for its conclusion.)
What qualifies as a reason to believe a conclusion is true? (cont.)

When attempting to extract arguments from speech or text, put yourself in the mindset of the speaker/author:

» If they seem to think that X is a reason for Y, identify X as a reason for Y, and treat what they’re saying as an argument.

E.g., this pattern of reasoning by a Flat-Earther qualifies as an argument:

[P1] The government is lying to us about the Earth being spherical.
[P2] All of the so-called “photos” of the Earth taken from space are just images Photoshopped to make the Earth appear spherical.

[C] The Earth is flat

– since Flat-Earther thinks [P1] & [P2] are true, in his mind they are premises for [C], so it’s an argument for [C]…

• …but that doesn’t mean it’s a good argument!

  » (For it to be a good argument, Flat Earther needs to persuade us that [P1] and [P2] are true.)
Some complications for identifying arguments in speech & writing:

1. In real-life argumentation, arguers don’t always spell out every single step in their reasoning.

   Many arguments (called enthymemes) involve hidden premises: unstated assumptions made by the arguer, which often clarify the relationship between the stated premises and the conclusion.

   e.g.:

   | [P1] Genetically modified crops are not natural. |
   | [HP2] We should not produce or eat foods that are not found in nature. |
   | [C] We should ban the production of genetically modified crops. |

   As written, it might not be totally clear to us why the arguer thinks P1 is a reason to believe C is true.

   – This argument is an enthymeme, since it only makes sense (as providing reasons to believe its conclusion is true) if we fill in an unstated assumption the arguer is making:

   | [P1] Genetically modified crops are not natural. |
   | [HP2] We should not produce or eat foods that are not found in nature. |
   | [C] We should ban the production of genetically modified crops. |
Some complications… (continued)

2. Some premises in an argument may support other premises, rather than directly supporting the conclusion.

In these cases (called extended arguments), we can distinguish between:

- **major premises**, which **support the conclusion in the main argument**
- **sub-premises**, which **support a major premise in an auxiliary argument**

Example of an extended argument:

[P1] The movie starts at 2:30pm.

[p2] Google Maps says the trip should take 25 minutes.

[p3] The subway has been extra unreliable lately.

[p4] We should add 10 minutes to our travel time

[P5] We should leave ourselves 35 minutes to get there.

[C] We should leave at 1:55pm to get to the movie on time.

This argument consists of a **main argument** and **two auxiliary arguments**...
Some complications… (continued)

2. Some premises in an argument may support other premises, rather than directly supporting the conclusion.

Auxiliary argument #1: [p3] The subway has been extra unreliable lately. [p4] We should add 10 minutes to our travel time

Auxiliary argument #2: [p2] Google Maps says the trip should take 25 minutes. [p4] We should add 10 minutes to our travel time [P5] We should leave ourselves 35 minutes to get there.

Main argument: [P1] The movie starts at 2:30pm. [P5] We should leave ourselves 35 minutes to get there. [C] We should leave at 1:55pm to get to the movie on time.
Some complications… (continued)

2. Some premises in an argument may support other premises, rather than directly supporting the conclusion.

➢ For now, we will treat all premises we encounter as if they belong to the main argument.

[P1] The movie starts at 2:30pm.
[P2] Google Maps says the trip should take 25 minutes.
[P3] The subway has been extra unreliable lately.
[P4] We should add 10 minutes to our travel time.
[P5] We should leave ourselves 35 minutes to get there.

[C] We should leave at 1:55pm to get to the movie on time.

(Later in the course, we will learn how to distinguish between major & sub-premises,
• And we’ll visualize the complex structures of extended arguments using argument mapping.)
Some complications… (continued)

3. In some instances of argumentation, the conclusion is not explicitly stated, but it is strongly implied.

– Nearly every advertisement boils down to an argument with the unstated conclusion “You should buy this product”

| P1 | Kylie Jenner takes SugarBearHair vitamins |
| P2 | You want to be like Kylie Jenner |
| C  | You should buy SugarBearHair vitamins |

– A lot of propaganda qualifies as covert argumentation:
  • e.g., this ad strongly suggests “You should enlist in military service because everyone else is doing it”
SMALL GROUP EXERCISE (Part 1):
• Which of the following are arguments?

a) If we keep burning fossil fuels, the greenhouse effect will continue to get worse. It will be a disaster for our planet if that happens. So we’ve got to reduce our dependency on fossil fuels.

b) The U.S. Census Bureau estimated that 18 million students were enrolled in the nation’s 4,300 institutions of higher learning in fall 2007. The average cost of tuition, room, and board for in-state students at four-year public colleges and universities was $13,425 and at private schools, $36,510. Half the full-time college students were employed.

c) Why is there so much opposition to using animals for medical research? We know medical research saves the lives of humans. True, some animals suffer in the process, but it’s worth it in the long run. After all, most people value the lives of humans more than animals.

d) He told us he was forty-two, but he has a daughter who is at least thirty years old. Therefore he must be older than he says he is.

e) Most crime is committed by those aged under 21. But most people aged under 21 are not criminals. Some people aged over 21 are persistent offenders.

f) Most voters never read the platforms of electoral candidates. Voters are often influenced in their choices by the personalities of party leaders. They sometimes vote for change because their own interests have not been served by the government’s policies.
SMALL GROUP EXERCISE (Part 1):

• Which of the following are arguments?

a) If we keep burning fossil fuels, the greenhouse effect will continue to get worse. It will be a disaster for our planet if that happens. So we’ve got to reduce our dependency on fossil fuels.

b) The U.S. Census Bureau estimated that 18 million students were enrolled in the nation’s 4,300 institutions of higher learning in fall 2007. The average cost of tuition, room, and board for in-state students at four-year public colleges and universities was $13,425 and at private schools, $36,510. Half the full-time college students were employed.

c) Why is there so much opposition to using animals for medical research? We know medical research saves the lives of humans. True, some animals suffer in the process, but it’s worth it in the long run. After all, most people value the lives of humans more than animals.

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b) Why is there so much opposition to using animals for medical research? We know medical research saves the lives of humans. True, some animals suffer in the process, but it’s worth it in the long run. After all, most people value the lives of humans more than animals.

d) He told us he was forty-two, but he has a daughter who is at least thirty years old. Therefore he must be older than he says he is.

➢ In each of these arguments, the speaker is providing reasons
• to persuade us that some statement is true,
• or to help us understand why they believe the statement is true.
SMALL GROUP EXERCISE (Part 1):

- Which of the following are arguments?

b) The U.S. Census Bureau estimated that 18 million students were enrolled in the nation’s 4,300 institutions of higher learning in fall 2007. The average cost of tuition, room, and board for in-state students at four-year public colleges and universities was $13,425 and at private schools, $36,510. Half the full-time college students were employed.

e) Most crime is committed by those aged under 21. But most people aged under 21 are not criminals. Some people aged over 21 are persistent offenders.

f) Most voters never read the platforms of electoral candidates. Voters are often influenced in their choices by the personalities of party leaders. They sometimes vote for change because their own interests have not been served by the government’s policies.

- In these non-argumentative paragraphs, the speaker is providing information without a clear intent to persuade us of the truth of some particular conclusion, or to explain their belief in the truth of a conclusion.

  ➢ The presence of information being conveyed does not guarantee the presence of an argument!
SMALL GROUP EXERCISE (Part 2):

- For each argument, identify the premise(s) and the conclusion.

a) If we keep burning fossil fuels, the greenhouse effect will continue to get worse. It will be a disaster for our planet if that happens. So we’ve got to reduce our dependency on fossil fuels.

c) Why is there so much opposition to using animals for medical research? We know medical research saves the lives of humans. True, some animals suffer in the process, but it’s worth it in the long run. After all, most people value the lives of humans more than animals.

d) He told us he was forty-two, but he has a daughter who is at least thirty years old. Therefore he must be older than he says he is.
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• For each argument, identify the premise(s) and the conclusion.

a)  [P1] If we keep burning fossil fuels, the greenhouse effect will continue to get worse. [P2] It will be a disaster for our planet if that happens. So [C] we’ve got to reduce our dependency on fossil fuels.

c)  Why is there so much opposition to using animals for medical research? [IMPLIED C: People should not oppose the use of animals for medical research.]
   [P1] We know medical research saves the lives of humans. True, [OBJECTION] some animals suffer in the process, but [P2] [the animal suffering is] worth it in the long run. After all, [P3] most people value the lives of humans more than animals.

d)  [P1] He told us he was forty-two, but [P2] he has a daughter who is at least thirty years old.
   [HIDDEN P3] The age gap between a parent & child is nearly always greater than 12 years. Therefore [C] he must be older than he says he is.
SMALL GROUP EXERCISE (Part 3):

• For each of the arguments you identified, write the argument in standard argument form.

a)  [P1] If we keep burning fossil fuels, the greenhouse effect will continue to get worse.  [P2] It will be a disaster for our planet if that happens. So [C] we’ve got to reduce our dependency on fossil fuels.

c)  Why is there so much opposition to using animals for medical research?  
[IMPLIED C: People should not oppose the use of animals for medical research.] 
[P1] We know medical research saves the lives of humans. True,  [OBJECTION] some animals suffer in the process, but  [P2] [the animal suffering is] worth it in the long run. After all,  [P3] most people value the lives of humans more than animals.

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a) [P1] If we keep burning fossil fuels, the greenhouse effect will continue to get worse.
    [P2] It will be a disaster for our planet if [the greenhouse effect gets worse].
    [C] We’ve got to reduce our dependency on fossil fuels.

c) [P1] We know medical research saves the lives of humans.
    [P2] [The animal suffering that occurs during medical research is] worth it in the long run.
    [P3] Most people value the lives of humans more than animals.
    [IMPLIED C]: People should not oppose the use of animals for medical research.

d) [P1] He told us he was forty-two,
    [P2] He has a daughter who is at least thirty years old.
    [HIDDEN P3] The age gap between a parent & child is nearly always greater than 12 years.
    [C] He must be older than he says he is.