

Critical Thinking and Philosophical Writing

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Outline

- ① Critical Thinking
- ② Rules 1-6
- ③ Rules 13-17
- ④ Rules 18-21

Philosophical Writing

- What is philosophical writing?
- Why does writings in philosophy different from other types of writing?

Philosophical Writing and Critical Thinking

- One major reason why we do philosophy is to think for ourselves.
- Philosophical writing is an essential way to promote critical thinking, establish and communicate ideas.
- You might hear people talking about critical thinking, independent thinking all the time.
- But rarely do people understanding what they are talking about when they do.

Thinking

What is think?

- The Oxford English Dictionary definition of the term “think” contains two parts:
 - ① Have a particular opinion, belief, or idea about someone or something;
 - ② Direct one’s mind toward someone or something; use one’s mind actively to form connected ideas.

Think For Ourselves

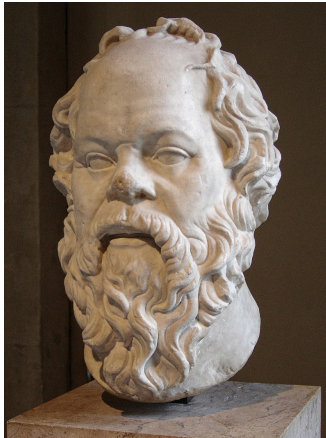
- What ideas should we hold to?
- How should we think?

Think For Ourselves

Suggestions from philosophy:

- We should hold true ideas;
- We should think logically

Socrates' Method



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https://commons.wikimedia.org/wiki/Category:Socrates#/media/File:Socrates_Louvre.jpg

Socrates' Method

1. Locate a statement confidently described as common sense.
 - Acting courageously involves not retreating in battle.
 - Being virtuous requires money.

Socrates' Method

2. Imagine for a moment that, despite the confidence of the person proposing it, the statement is false. Search for situations or contexts where the statement would not be true.

- Could one ever be courageous and yet retreat in battle?
- Could one ever stay firm in battle and yet not be courageous?
- Could one ever have money and not be virtuous?

Socrates' Method

3. If an exception is found, the definition must be false or at least imprecise.

- It is possible to be courageous and retreat.
- It is possible to stay firm in battle yet not be courageous.
- It is possible to have money and be a crook.

Socrates' Method

4. The initial statement must be nuanced to take the exception into account.

- Acting courageously can involve both retreat and advance in battle.
- People who have money can be described as virtuous only if they have acquired it in a virtuous way, and some people with.
- No money can be virtuous when they have lived through situations where it was impossible to be virtuous and make money.

Socrates' Method

- If one subsequently finds exceptions to the improved statements, the process should be repeated.
- The truth, in so far as a human being is able to attain such a thing, lies in a statement which it seems impossible to disprove.
- It is by finding out what something is not that one comes closest to understanding what it is.
- The product of thought is superior to the product of intuition.

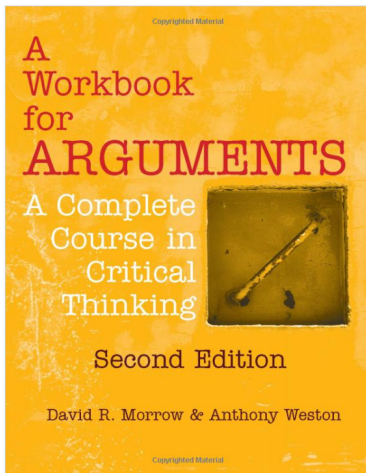
Socrates' Method

- This method describes an active process of thinking.
- The doing of thinking is a necessary ingredient for holding true ideas.
- To fail to think for yourself is to choose ignorance.
- Plato's Apology: the unexamined life is not worth living.

How Should One Think Clearly?

- Logic, the science of argument
- Argument, provide reason and evidence for holding an idea

Critical Thinking Book



Outline

- ① Critical Thinking
- ② **Rules 1-6**
- ③ Rules 13-17
- ④ Rules 18-21

Rule 1: Identify Premises and Conclusion

- The very first step in making an argument is to ask yourself what you are trying to prove.
- The conclusion is the statement for which you are giving reasons and evidence.
- The statements that give your reasons and evidence are your premises.

Example

“I am an optimist. It does not seem to be much use being anything else.” - Winston Churchill

“A dog was kept in the stalls, and yet, though someone had been in and fetched out a horse, [the dog] had not barked ...Obviously the ...visitor was someone whom the dog knew well.”- Sherlock Holmes

Indicator Terms

- Conclusion indicators: therefore; thus; hence; so; consequently; this shows that
- Premise indicators: because, since, given that, for, on the grounds that, this follows from

Some things to Remember

- Consider context.
- Do not always rely upon indicator terms. Because could indicate reasons or explanations.
- Some statements are not arguments. Jokes, expressing feelings, demands.
- Always start by determining the conclusion first.
- Ask yourself - “what is the take-away here”

Example

[In order to prosper, a democracy needs its citizens to be able to carry out their responsibilities competently.] [Being a competent citizen requires familiarity with the basics of math, natural science, social science, history, and literature, as well as the ability to read and write well and the ability to think critically.] [A liberal education is essential to developing these skills.] Therefore, in order for a democracy to prosper, its citizens must get a liberal education. - Adapted from: Steven M. Cahn, letter to the editor, New York Times, May 21, 2004

Rule 2: Develop Your Ideas in a Natural Order

- Short arguments are usually developed in one or two paragraphs.
- Put the conclusion first, followed by your reasons, or set out your premises first and draw the conclusion at the end.
- In any case, set out your ideas in an order that unfolds your line of thought most clearly for the reader.

The Guideline

- The key is the Links of Inference.
- Each passage/statement should prepare the way for the next statement.
- Don't be afraid to rearrange your argument to make it stronger and more persuasive.

Example

“Some companies are creating genetically modified animals, such as salmon, that provide more meat for consumers. If genetically modified salmon escaped into the wild, they would compete with “natural” salmon for food. Natural salmon, though, have been honed by natural selection to flourish in the wild. Genetically modified salmon are not designed to flourish in the wild. Thus, non-genetically modified salmon would outcompete genetically modified salmon if genetically modified salmon escaped into the wild.” - Adapted from: “Dawn of the Frankenfish,” The Economist, Jun 10, 2010

Example

- ① If genetically modified animals escaped into the wild, they would compete with “natural” salmon for food.
- ② Natural salmon have been honed by natural selection to flourish in the wild.
- ③ Genetically modified salmon are not designed to flourish in the wild.
- ④ Therefore, Non-genetically modified salmon would outcompete genetically modified salmon if genetically modified salmon escaped into the wild.

Rule 3: Start from Reliable Premises

- No matter how well you argue from premises to conclusion, your conclusion will be weak if your premises are weak.
- If you are not sure about the reliability of a premise, you may need to do some research and/or give an argument for the premise itself
- If you find you cannot argue adequately for your premise(s), then, of course, you need to try some other premise.

Example

“Nobody in the world today is really happy. Therefore, it seems that human beings are just not made for happiness. Why should we expect what we can never find?”

Example

“Computers will soon take over most human tasks. After all, Deep Blue, a computer, beat Garry Kasparov, the World Chess Champion, in 1997. And if computers can defeat the best human alive in an activity that symbolizes intelligence more than any other, then surely their supremacy in everything else we do is not far off.” - Adapted from: Editorial, Washington Post, May 6, 1997

Example

- ① Deep Blue, a computer, beat the World Chess Champion in 1997.
- ② If computers can beat the best human alive in chess, then their supremacy in everything else we do is not far off.
- ③ Therefore, Computers will soon take over most human tasks.

Rule 5: Build on Substance, Not Overtone

- Reason: Statements that infer or provide evidence for a given claim, or set of claims
- Rhetoric: At best - the art of effective persuasions, emotional loaded words

Rule 5: Build on Substance, Not Overtone

Reasonableness ↔ Psychological

- Socrates and Plato oppose to rhetoric
- Rhetoric can be used to inspire or emotionally organize
- David Hume: Reason and passion might be the core.
Emotions drives us to believe that such and such reason is convincing.

Some Lessons

- Learn to spot emotionally charged language.
- Learn to avoid making arguments with emotional charged language.
- Positive vs. negative terms
- Context matters

Example

“Certain irresponsible American politicians have been spewing lies about the latest attempts at reform. Whether these lies come from a combination of stupidity and a hysterical imagination or from cleverness and a willingness to exploit innocent Americans for personal political gain, these lies must be exposed for the damaging falsehoods that they are.” - Adapted from: Keith Olbermann, Countdown with Keith Olbermann, MSNBC, Aug 10, 2009

Rule 6: Use Consistent Terms

When terms are introduced throughout an argument, they need to be used consistently.

- Reason 1. To avoid contradiction and confusion. Fallacy of contradiction, equivocation
- Reason 2. To avoid confusion. Couching an idea: you must thread an idea through a series of statements, fallacy of association.

Example

When you learn about other cultures, you start to realize the variety of human customs. This new understanding of the diversity of social practices may give you a new appreciation of other ways of life. Therefore, studying anthropology tends to make you more tolerant.

Example

When you learn about other cultures, you start to realize the variety of human customs. When you start to realize the variety of human customs, you tend to become more tolerant. Therefore, when you learn about other cultures, you tend to become more tolerant.

Some Lessons

- A tight argument outweighs a stylish argument.
- Avoid using a thesaurus to replace repetitive language.
- Use the same terms for consistency and clarity but
- alternate the syntax and rhythm of your argument for readability.

Example

“Training poor farmers in developing countries how to use organic farming practices is an effective way to fight poverty. One organization, Harambee-Kenya, has trained hundreds of farmers to use natural farming methods, such as drip irrigation using buckets. These farmers have gone from food shortages to food security and even food surpluses. Some are using the cash they earn by selling their excess agricultural output to finance their children’s medical and educational expenses.” - Adapted from: Carol Carper, letter to the editor, Christian Science Monitor, Jul 19, 2010,

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Rule 13: Cite your sources

The general argumentative form for a source:

- x (a source that ought to know) says y
- therefore, y is true

This is a risky business! It is inductive argument from authority.

What Needs to be Cited?

- Well known, obvious, or common knowledge, NO. “Earth is round.”
- Precise claims, uncommon knowledge, published information, results derived from research, Statistics.

Why Should We Cite?

- Credibility
- Clarity (about which ideas are yours)
- Research scholarship

Citation Styles

- Chicago Mannual Style
- MLA
- APA
- <https://owl.english.purdue.edu/owl/>

Rule 14. Seek Informed Sources

- Sources must be qualified to make the statements they make. A source should have knowledge and credibility in the requisite field of investigation.
- Where a source's qualifications are unclear, an argument should explain their relevance. Steven Hawking, black hole vs the existence of God
- An informed source \neq "Authority"
- Authorities on one subject are not necessarily informed about every subject on which they offer opinions.
- Sometimes we must rely on sources whose knowledge is limited.

Rule 15: Seek Impartial Sources

- People who have the most at stake in a dispute are usually not the best sources of information about the issues involved. Sometimes they may not even tell the truth.
- The truth as one honestly sees it can still be biased. We tend to see what we expect to see.
- look for impartial sources: people or organizations who do not have a stake in the immediate issue, and who have a prior and primary interest in accuracy, such as (some) university scientists or statistical databases.
- Independent service professionals and mechanics are relatively impartial sources of information.

Rule 16: Cross-check Sources

- Where even the experts disagree, it's best to reserve judgment yourself too.
- On larger and less tangible issues, it is harder to find authorities who agree.
- In general, do not expect the experts' mere assertions to carry authority.
- Mere disagreement does not automatically disqualify a source. "The earth is round."

Rule 17: Use the Web with Care

- Don't rely on a Web site at all unless you have some idea of its source.
- Who created this site?
- Why did they create it?
- What are their qualifications?
- What does it mean if they don't tell you?
- How can you double-check and cross-check its claims?

Example

“The Chinese philosopher Confucius was born in 551 BCE. This claim is true. According to the historian of philosophy Fung Yu-Lan (A Short History of Chinese Philosophy, ed. Derk Bodde [1948; repr., New York: Free Press, 1997], 4), Confucius was born in 551 BCE. This is the same date given by the Stanford Encyclopedia of Philosophy entry on Confucius.”

Reasoning for Arguments Premier: Deductive Reasoning

- Reasoning by necessity
- Formal analysis
- Valid arguments
- Invalid arguments

Modens Ponens

- If A then B
- A

-
- Therefore B

Modens Ponens

If Jackson goes to the party, then Mia will not come. Therefore, Mia is not coming because Jackson confirmed his attendance.

Modens Tollens

- If A then B
 - Not B
-
- Therefore Not A

Modens Tollens

Earlier it was said that if the weather holds out then we will attempt the mountain climb. We are not going to attempt the climb. Therefore, the weather did not hold out.

Hypothetical Syllogism

- If A then B
 - If B then C
-
- Therefore if A then C

Hypothetical Syllogism

If tax rates increase then employers will have less cash on hand to spend. If an employer has less cash on hand to spend they do not hire as many employees. Therefore, if tax rates increase then employers will not hire as many employees.

Disjunctive Syllogism

- Either A or B
 - Not A (or Not B)
-

- Therefore B

Disjunctive Syllogism

Either God exists or Atheism is true. God does not exist, therefore Atheism is true.

Dilemmas

- Either A or B
 - If A then X
 - If B then Y
-
- Therefore Either X or Y

Dilemmas

Either God exists or Atheism is true. If God exists then heaven is real. If atheism is true then death is the end. Therefore, either heaven is real or death is the end.

Reductio ad Absurdum

In order to prove A, show the absurdity of claiming not A

- Not A
- If Not A then contradiction results
- If contradiction results, then Not A is false

-
- Therefore A is true

Reductio ad Absurdum

“Some people insist that Americans never really landed on the moon. They say that the moon landings were an elaborate hoax. NASA employed thousands of people to (allegedly) put astronauts on the moon, but in the decades since the first landing, no one involved in the project has claimed that the landings were staged. Suppose for a moment that the landings were a hoax. It’s ridiculous to think that NASA could have kept all of those people silent. Thus, the only reasonable thing to believe is that the landings were not a hoax.” - Adapted from: Brent Silby, “Of Course We Went to the Moon: A Defense of the Lunar Landings,” 2001,

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Rule 18-21: Arguments about Causes

- Wait... what is a cause?
- David Hume: A “necessary connexion” between a cause and effect.
- What is an argument from causation?
- Causal arguments are inductive arguments which provide the premises to support a conclusion about a cause and effect relation.

Rule 18: Causal Arguments Start with Correlations

General argumentative form:

- Event or Condition X is regularly associated with event or condition Y
- Therefore, event or condition X causes event or condition Y.
- In other words... because X is regularly associated with Y in this way, we conclude that X causes Y.

Rule 18: Causal Arguments Start with Correlations

- Example: people who meditate tend to be calmer. Therefore, meditation calms you down.
- Correlation \neq Causation
- Inverse correlations = X goes up and Y goes down
- non-correlation = a lack of causality

Example

“The GRE is an exam used for graduate school admissions. Philosophy students tend to do extremely well on all sections of the test-especially the verbal reasoning and analytical writing sections. That is, there is a correlation between studying philosophy and doing well on the GRE.” - Adapted from: Justin Weinberg, “Philosophy Majors and the GRE 2011–2014,” Daily Nous, Aug 12, 2014

Rule 19: Correlations May Have Alternative Explanations

- A correlation can be explained in multiple ways.
- University is getting bigger \neq textbook prices are going up and up.
- Both are happening at the same time, but they are not linked by causation

Rule 19: Correlations May Have Alternative Explanations

- Coincidental correlation
- Correlation itself does not establish the direction of the connection
- A third cause may be responsible for the correlation observed
- There may be a complex of causal relations simultaneously occurring.

Example

There is a correlation between being bitten by a specific kind of tropical mosquito called *Aedes aegypti* and developing yellow fever. One possible explanation is that *A. aegypti* carries a virus that causes yellow fever. Another possibility is that *A. aegypti* likes to bite people who are carrying the virus for yellow fever and the mosquito can detect the virus before people show symptoms of the illness. A third possibility is that yellow fever is caused by something else that is common in the tropics; being in tropics makes you more likely both to get yellow fever and (independently) to get bitten by *A. aegypti*.

Rule 20: Work toward the Most Likely Explanations

- Evaluate multiple types of explanation thoroughly
- Consider what sorts of things an explanation will leave unexplained
- Don't expect an answer for everything (cf. conspiracy theories)

Example

Most of my open-minded friends are well read; most of my less open-minded friends are not. I conclude that reading leads to open-mindedness.

Example

Most of my open-minded friends are well read; most of my less open-minded friends are not. It makes sense that the more you read, the more you encounter challenging new ideas, ideas that make you less insistent on your own. Reading also lifts you out of your daily world and shows you how different and many-sided life can be. Reading, therefore, leads to open-mindedness.

Rule 21: Expect complexity

- Identify the relative weight of different causes.
- Look for the frequency of a causal/correlating relationship.
- Differentiate Major and minor contributors.

Example

Physical exercise improves people's "executive function" - the set of psychological abilities involved in planning and executing a task. People who get regular exercise have better executive function than their age peers who don't. This isn't because people with better executive function exercise more. When inactive people begin exercising, their executive function improves.

Example

Do economic downturns cause anti-immigrant sentiments in the United States? As Harvard economist Benjamin Friedman documents in his book *The Moral Consequences of Economic Growth*, anti-immigrant sentiment tends to rise in the United States during economic downturns. Friedman's book shows that this correlation has held since at least the nineteenth century. This is because economic downturns cause anti-immigrant sentiment. During economic downturns, many people face very difficult circumstances, often for reasons beyond their control. In trying to cope with and understand those challenges, people look for obvious changes in their environment.

Example

Recent immigrants, by definition, bring change to their new country. Thus, it is easy for people to make an erroneous connection between the arrival of the most recent immigrants and the economic downturn. Because people blame immigrants for their economic hardships, anti-immigrant sentiments increase. This is more plausible than claiming that the correlation is a pure coincidence, given how long it has gone on, or that anti-immigrant sentiment causes an economic downturn, since the anti-immigrant sentiment usually increases after the economy deteriorates.

Reference

- David R. Morrow, Anthony Weston (2015). *A Workbook for Arguments: A Complete Course in Critical Thinking*, Second Edition. Hackett Publishing Company, Inc.