

The Little Logic Book
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Exercises for The Little Logic Book may be downloaded by the instructor as Word documents and then modified for distribution to students; or students may be instructed to download the exercises and then told which ones to answer. This is an exercise bank; it is not assumed that students will do all the exercises for any one chapter. Comments, questions or suggestions for Chapter One of The Little Logic Book can be sent to logic@calvin.edu

Exercise Bank for Chapter Nine:
Analogical Arguments
(Posted March, 2014)

1.0 Basic Concepts

Define or identify the following:

- 1.1 Analogical argument
- 1.2 Analogies
- 1.3 Disanalogies
- 1.4 Relevant similarities

2.0 Analogical Argument Basics

Indicate whether the following statements are true or false.

- 2.1 Analogy is the weakest form of argument.
- 2.2 There are many crucial issues of everyday life for which useful deductive arguments are not available.
- 2.3 There are no completely automatic rules for evaluating the strength of analogical arguments.

3.0 Analogical Arguments

- 3.1 State the basic pattern for analogical arguments.
- 3.2 State the two criteria good analogical arguments must meet.
- 3.3 What factors are important in assessing how well an analogical argument meets the first criterion (involving the relevant connection)?
- 3.4 What factors are important in assessing how well an analogical argument meets the second criterion (involving similarity)?

4.0 Analyzing Analogical Arguments

- 4.1 In the following analogical argument identify:

- A. The things/groups being compared (that will be $[a_1, \dots]$ and $[b_1, \dots]$ in the basic pattern),
- B. The ways in which those two things/groups are thought to be similar/analogous (that will be $[P_1, \dots]$),
- C. The connection being inferentially transferred from $[a_1, \dots]$ to $[b_1, \dots]$ (that will be the connection between $[P_1, \dots]$ and $[Q_1, \dots]$),
- and
- D. The conclusion about the $[b_1, \dots]$ group (that will be $[Q_1, \dots]$).

Among the biological categories that really matter, young kittens and young calves are extremely similar. (For instance, they are both land animals, vertebrates, warm blooded, mammals, born live, hair-covered, four-legged, milk-fed as infants, playful, and share a host of other relevant characteristics.) In light of all those similarities, one cannot reasonably deny that just as young calves are considered a delicacy (veal) by food experts, so too, fried kitten would make a wonderful addition to any diet.

4.2 Recall again the simple basic logical form of analogical arguments:

1. Two things/groups - $[a_1, \dots]$ and $[b_1, \dots]$ - are similar in that they all have characteristics $[P_1, \dots]$
2. The first thing/group - $[a_1, \dots]$ - also has the additional important characteristics $[Q_1, \dots]$
- So,
3. Probably, the second thing/group - $[b_1, \dots]$ - also has the additional characteristics $[Q_1, \dots]$

As closely as you can, restate the following analogical argument in that form:

One contention of sociobiology which has become popular in some circles is that our primate cousins (e.g., bonobos) are enormously promiscuous, that we humans share a significant genetic heritage with them, and that such behavior traits as a tendency toward promiscuity are as inbred in us as they are in those creatures. These traits are perfectly natural aspects of what we humans are. Thus just as chimps, bonobos, gorillas, etc., cannot be morally condemned—or even sensibly criticized—for their promiscuous behavior, neither can we.

5.0 Evaluating Analogical Arguments

Recall the two evaluative criteria for analogical arguments:

- A. The *connection* between $[P_1, \dots]$ and $[Q_1, \dots]$ must be properly established in the $[a_1, \dots]$ cases.
- And,
- B. There must be a genuine, relevant, sufficient *similarity* between the $[a_1, \dots]$ cases and the $[b_1, \dots]$ cases.

Lay out the following analogical arguments, identifying the supposed similarities between the two cases and the additional quality Q that is supposed to hold in both in the a_1 case (the source case) and the b_1 case (the target case). Give your assessment of the strength of the arguments in terms of the two evaluative criteria listed above. In some of the analogical arguments below the relevant similarities between the two cases are assumed

and implicit. To lay out and evaluate the argument, you will need to make those similarities explicit.

5.1 There are, of course, those who don't take grade school playground bullying very seriously. But the potential for harm is much greater than might be supposed. Bullying is an exercise of power of one person or group over another. It degrades its victims, erodes their sense of self-worth, generates a sense of powerlessness, induces paranoia. And in the perpetrator, bullying represents the triumph of a warped sense of values, confers an unmerited sense of status and importance that in turn undermines motivation for legitimate and genuine achievement. Clearly bullying thus parallels armed robbery in significant ways, and thus the criminal prosecution and jail sentences which society agrees is appropriate for armed robbery should be applied to bullying as well.

5.2 From a chiropractor's office for corrective care over relief care:

"If the alignment in the front end of your car is out, you can have one tire wear out faster than another. You could keep replacing the tire as it goes bald. This is relief care. In the short run, it might look like this saves money or time but it doesn't. Although to correct the problem might take a little longer and cost a little more, in the long run you actually save way more."

5.3 From a parent in favor of a doctor visit: "Scot, you really should go in for regular annual check-ups with your doctor. If you owned a car, wouldn't you take it in for regular tune-ups once a year?"

5.4 From a high school student in defense of fornication: "Sure I believe in sex before marriage. If you were going to buy a car, wouldn't you take it out for a test drive first?"

5.5 From M. Craig Barnes, the President of Princeton Seminary, about our expectations for church communities:

"Of course, the church is a flawed institution. It's made up of very flawed people. But that's why we're part of it in the first place. To expect any religion to be free of people who have needs and wounds is like going to a hospital and being offended to find sick people." (From *Body and Soul: Reclaiming the Heidelberg Catechism*.)

5.6 From a Dutch bike advocate: In the mid 1960s the Dutch anarchist group, the Provos, wanted to ban automobiles from the city center of Amsterdam. They argued that cars were dangerous, killing people not only in accidents but by their exhaust fumes. In a manifesto written by Luud Schimmelpennick, the inhabitants of Amsterdam were reminded that: "Exhaust fumes were also, in Nazi Germany, a much-used and effective means for the gassing of the Jews." (From *In the City of Bikes*, by Peter Jordan.)

5.7 From the medieval philosopher, Boethius, regarding what we can expect from the course of fortune in his *The Consolation of Philosophy*, written in prison while he was awaiting execution: In this work Philosophy tells Boethius that if you seek your happiness in the goods of fortune, you can't complain when your fortune changes. That's just the nature of fortune. The analogy she uses: "Commit your boat to the winds and you must sail whichever way they blow, not just where you want." (From *The Consolation of Philosophy*, Book II.)

5.8 From Karl Marx in defense of modern philosophy: “But if occasionally individuals cannot digest modern philosophy and die of indigestion, that counts no more against philosophy than the occasional blowing up of a few train passengers by the bursting of a boiler counts against the science of mechanics.”

(From “Comments on the lead article in *Kölnische Zeitung* #129,” 1842.)

5.9 In a Republican debate between presidential hopefuls, Rick Perry (governor of Texas) boasted that millions of jobs have been created in Texas since he’s been in charge, while many other states were losing jobs or adding only a very few. In response, Mitt Romney said: “If you’re dealt four aces in a game of poker, that doesn’t necessarily make you a great poker player.”

5.10 An analogical argument for the existence of a Creator: “Of course this world has a Creator. If you found a watch on the beach, wouldn’t you think it had a maker?”

5.11 Consider this analogical argument:

A. Marijuana has been unfairly outlawed in the United States. It should be legalized. Alcohol causes people to act crazy and is the cause behind many traffic fatalities. But we don’t outlaw alcohol consumption.

Now consider this analogical argument:

B. Alcohol consumption should be outlawed in the United States. Marijuana blurs people’s judgment and contributes to traffic accidents, and it’s outlawed.

These arguments are similar, yet they are given in support of very different conclusions. Lay out and assess these arguments. In your view, is one argument stronger than the other? Are they both equally weak? Equally strong? Explain your answer.

6.0 A Stretch

6.1 Prison Break

In one of Plato’s best-known dialogues, Crito visits Socrates in prison as Socrates awaits his execution. Crito tries to convince Socrates that he should try to escape. The guards, it seems, could easily be bought off. Besides, Crito argues, if you do not try to escape, Socrates, what will people think of us, your friends: that we stood by and did nothing? That we were too cheap to bribe the guards? Socrates responds to this worry by arguing that one should not worry about what the general run of people think. One should pay attention to what *some* people think, but not the majority. To commend this point, he employs an analogical argument (*Crito*, 47a-48a):

Socrates: Consider then, do you not think it a sound statement that one must not value all the opinions of men, but those of some and not of others? What do you say? Is it not well said?

Crito: It is.

Socrates: One should value the good opinions, and not the bad ones?

Crito: Yes.

Socrates: The good opinions are those of wise men, the bad ones those of foolish men?

Crito: Of course.

Socrates: Come then, what of statements such as this: Should a man professionally engaged in physical training pay attention to the praise and blame and opinion of any man, or to those of one man only, namely a doctor or trainer?

Crito: To those of one only.

Socrates: He should therefore fear the blame and welcome the praise of that one man, and not those of the many?

Crito: Obviously.

Socrates: He must then act and exercise, eat and drink in the way the one, the trainer and the one who knows, thinks right, not all the others?

Crito: That is so.

Socrates: Very well. And if he disobeys the one, disregards his opinion and his praises while valuing those of the many who have no knowledge, will he not suffer harm?

Crito: Of course.

Socrates: What is that harm, where does it tend, and what part of the man who disobeys does it affect?

Crito: Obviously the harm is to his body, which it ruins.

Socrates: Well said. So with other matters, not to enumerate them all, and certainly with actions just and unjust, shameful and beautiful, good and bad, about which we are now deliberating, should we follow the opinion of the many and fear it, or that of the one, if there is one who has knowledge of these things and before whom we feel fear and shame more than before all the others? If we do not follow his directions, we shall harm and corrupt that part of ourselves that is improved by just actions and destroyed by unjust actions [that is, we shall harm and corrupt the soul]. Or is there nothing to this?

Crito: I think there certainly is, Socrates. ...

Socrates: We should not then think so much of what the majority will say about us, but what he will say who understands justice and injustice, the one, that is, and the truth itself. So that, in the first place, you were wrong to believe that we should care for the opinion of the many about what is just, beautiful, good, and their opposites.

Lay out this argument in terms of the basic structure of analogical arguments, and indicate whether and why you think it is a strong or weak analogical argument.

6.2 The Ruler and the Ruled

In the opening book of Plato's *Republic*, Thrasymachos defines justice as "the advantage of the stronger." The stronger group in any society rules, and the rulers, Thrasymachos thought, always make the laws to their own advantage. Justice is a matter of obeying the laws, so justice is to the advantage of the stronger. That is, justice is always to the advantage of the rulers, not the ruled.

Socrates disagrees. He thinks that typically rulers rule to the advantage of the ruled. That's the whole point of statecraft: to benefit the citizens. To make his point, he puts forward an analogical argument based on other forms of craft. The craft of medicine is to the advantage of the patient; the craft of horse breeding is to the advantage of the horses. So it seems that that in the other crafts, the stronger always work to the advantage of the weaker. And this would hold for statecraft as well.

Thrasymachos thinks this view is just naïve on Socrates' part. Consider shepherds, Thrasymachos begins. You must think, Socrates, that when shepherds fatten and care for their sheep they are "looking to something other than their master's good and their own. [But they fatten and care for their sheep in order to slaughter them in the end!] Moreover, you believe that rulers in the cities—true rulers, that is—think about their subjects differently than one does about sheep, and that night and day they think of something besides their own advantage. You are so far from understanding about justice and what's just, about injustice and what's unjust, that you don't realize that justice is really the good of another, the advantage of the stronger and the ruler, and harmful to the one who obeys and serves" (*Republic* 343b-d).

Write a brief analysis of this interchange of arguments. Both Socrates and Thrasymachos make use of the same kind of analogy (ruler/ruled relationships), but they derive opposing conclusions. What's going on here? On what basis does Thrasymachos reject Socrates's argument? Is one analogical argument stronger than the other? Are they both equally weak?

6.3 Of Stars, Teapots and God

Gary Gutting, a member of the philosophy department of the University of Notre Dame, recently interviewed the well-known philosopher of religion, Alvin Plantinga, on the rationality of belief in God. (*New York Times* Opinionator, February 9, 2014). Some atheists, like Bertrand Russell and Richard Dawkins, claim that the basis of their atheism is simply the lack of evidence for theism. There is just not enough evidence to believe in God. So, they conclude, God does not exist. But Plantinga maintains that lack of evidence is no grounds for atheism ("There is no God."); at most it's grounds for agnosticism ("We don't know if there is a God or not."). "No one thinks there is good evidence for the proposition that there are an even number of stars; but also, no one thinks the right conclusion to draw is that there are an uneven number of stars. The right conclusion would instead be agnosticism [with respect to even or uneven number stars]."

But, Gutting responds, Bertrand Russell would say that atheism based on a lack of evidence for theism is not like making claims about the uneven number of stars, but rather like denying that there is a teapot in orbit around the sun. If we have no good evidence for the claim that there is a teapot orbiting the sun, surely we would be perfectly justified in denying that there is a teapot orbiting the sun. Atheism is more like that. Lack of evidence for the existence of God is therefore a sufficient basis for atheism.

Here is Plantinga's response: "Russell's idea, I take it, is we don't really have any evidence against teapotism, but we don't need any; the absence of evidence is evidence of absence, and is enough to support a-teapotism. We don't need any positive evidence against it to be justified in a-teapotism; and perhaps the same is true of theism.

I disagree: Clearly we have a great deal of evidence against teapotism. For example, as far as we know, the only way a teapot could have gotten into orbit around the sun would be if some country with sufficiently developed space-shot capabilities had shot this pot into orbit. No country with such capabilities is sufficiently frivolous to waste its resources by trying to send a teapot into orbit. Furthermore, if some country had done so, it would have been all over the news; we would certainly have heard about it. But we haven't. And so on. There is plenty of evidence against teapotism. So if, a la Russell, theism is like teapotism, the atheist, to be justified, would (like the a-teapotist) have to have powerful evidence against theism."

In good part this debate is about finding the kind of analogy that would show that an atheism based on a lack of evidence for theism is entirely justified. What is this kind of argument for atheism like? Is it like believing there is no teapot circling the sun just because we have no evidence that there is such a teapot? If a-teapotism is justified simply on the basis of a lack of evidence for teapotism, and atheism is like a-teapotism, then it would seem that atheism is likewise justified simply on the basis of a lack of evidence for theism. Bertrand Russell thinks this analogy works in favor of atheism; but Alvin Plantinga, drawing on the same analogy, disagrees. What is the difference in their understanding of the orbiting teapot case that makes one think it's a good analogue for the argument that the atheist is justified simply on the basis of a lack of evidence for theism, while the other thinks that it would make a good case for thinking that the atheist would need powerful evidence against theism?

In sorting out these issues, it might help to take a peek at page 146 in the chapter on Informal Fallacies, where the Argument from Ignorance is discussed.