

Unit 1

Basic Argument Structure

Introduction

Arguments are the public face of critical thinking. They are the main tools people use to change each other's beliefs, and they are the only convenient tools for changing people's beliefs *rationally*. As a result, this course manual will begin by describing arguments, and showing you how to identify arguments and determine their structure.

Learning objectives

When you have completed this unit you should be able to:

- describe the theories of the nature of premises, conclusions, and arguments; and
- identify and interpret simple arguments.

Assigned reading

Jared Diamond, excerpt, *Guns, Germs, and Steel*

How to proceed

1. Read the study notes for unit 1.
2. Do the self-test exercises as you come to them. Answers are in the Answers to practice exercises section.
3. Do the assigned reading. Read through what Diamond has to say, and:
 - identify three arguments;
 - for each argument, identify the conclusion, and;
 - once you have done that, try to construct an argument of your own, based on the reading.

In his book, Diamond presents an hypothesis to explain why different groups of humans developed different technologies over the last 13,000 years, ultimately leading to the destruction or subjection of many peoples by the few possessing "guns, germs, and steel." In the excerpt you are given, however, his arguments only attempt to eliminate certain other hypotheses commonly put forward to explain the facts. All you learn about Diamond's hypothesis is that it claims that differences in people's environments, rather than their biological differences, are responsible for the differences in technological development.

Here is your exercise:

- Try to anticipate Diamond's hypothesis.
 - Write down what you think it might be.
 - What environmental differences might explain the differences in technological development existing ca. AD 1500?
 - How would you defend your hypothesis against criticism? That is, how would you argue for your idea?
4. Once you have thought about these questions, submit your answers by clicking on **course discussion** on the course web site and compose your message. Fellow students will give feedback, and perhaps ask questions. In addition, your instructor will respond to comments from students, and may ask for clarification on student views stated in the discussion.

Study notes

In the introduction to this unit, it was stated that that we will focus on identifying arguments and determining their structure. But perhaps this is confusing. An argument is just a shouting match, right? If so, how could you use an argument to change someone's beliefs in a rational way? Clearly, this is not what philosophers have in mind when discussing critical thinking. By "argument" philosophers mean something more like a discussion than a shouting match. Anytime someone attempts to convince someone else of something, an argument is taking place. Imagine that I point out to my friend that, given the heat, an iced coffee might be more enjoyable than a regular cup of coffee. Even this counts as an argument, in the sense that interests philosophers. After all, I am trying to convince my friend that an iced coffee might be better. I am not trying very hard, maybe, and I am not raising my voice, and I don't really mind if my friend ignores what I have to say. But still, I am trying to make a point, and I am mentioning a fact (the heat) that I take to be relevant support for my point. That is enough to make what I am doing *arguing*.

In the philosophical sense of "argument", shouting matches can involve arguments, but often they do not. Debates tend to contain more arguments than shouting matches, and academic writing generally contains many arguments. Newspaper editorials often make arguments, but when they descend to declaring something "rubbish" without explaining *why* one should believe it is rubbish, they give up on making arguments and take up preaching instead.

Basic theoretical claims

It is time to get down to details, and to give theories of the basic things this manual is all about. We begin with arguments. An argument is a reason or a collection of reasons offered for believing some thesis, plus the thesis that is supposed to be supported by the reasons. This is a central idea of this course manual, so it is worthy of repetition.

An argument is a reason, or collection of reasons, offered for believing some thesis, plus the thesis one is supposed to reach on the basis of these reasons.

This is not an uncontroversial idea. To tell the truth, almost no positive theory of *anything* is uncontroversial in philosophy, as was mentioned back in the introduction. But controversial as it is, this is also not a crazy theory of argument, and it will serve our purposes very well.

An argument has two parts, both with standard names. The reasons of an argument are called “**premises**”, and the thing they are reasons to believe is called “the “**conclusion.**” Thus, an argument is a premise or collection of premises, plus the conclusion they are meant to justify. Again, this is very important.

A premise is a reason put forward to believe something.

A conclusion is something reasons have been put forward to believe.

These three things—arguments, premises, and conclusions—are the most basic things this course will deal with. So study these simple theories closely, and commit them to memory.

Interpretation: Identifying arguments

Making arguments of your own is easy enough. You begin with something you want to argue for (your conclusion), and then you come up with something that looks like evidence in its favour (a premise or two), and there you go—you have a whole argument in mind. If you want to share your argument with someone else, you just put your ideas into words. But things get a little more complicated when you listen to what others have to say, and the first problem that comes up is the problem of interpretation. Is an argument being made? If so, what are the premises? What is the conclusion? When you make an argument, you know what you are doing, and you would not have too much trouble explaining your choice of premises and conclusion. When you consider the words of others, things get trickier. The process of determining whether or not an argument is being made by some other person, and if so what the argument is, can be called *argument interpretation*.

Argument interpretation begins with identifying what things are arguments. Given the theory of argument presented earlier, it is clear that nothing is an argument unless it contains both a premise and a conclusion—an argument *just is* a set of premises and the conclusion they are supposed to justify. If someone says, “you’d have to be completely blind not to believe in God” that is not an argument, although such a person might be able to give an argument for believing in the existence of God. If another person answers, “that is not true,” that person is not making an argument either, although the two people are “getting into an argument” in the non-philosophical sense. But in the philosophical sense, this is not an argument because no reasons, no premises, have been advanced by either side to show that what is being said is right, and nothing that is lacking premises can be an argument. Similarly, nothing is a premise or a conclusion unless it is part of an argument. One should never say “Fred’s argument is bad, because he offers no reason to believe his conclusion.” After all, if no reason is offered to believe something, then Fred cannot be making an argument. Arguments always have two parts: the things offered as reasons for believing something, and the something they are supposed to be reasons to believe—premises and conclusions.

How can you identify arguments? Not all controversial statements are arguments or parts of arguments, and not all arguments are controversial, so you cannot rely on whether or not something “sounds argumentative.” The best way to determine if something is an argument is simply to ask yourself if the author/speaker is trying to offer you reasons to believe something, plus a conclusion that is supposed to be supported by these reasons. If so, an argument is being made; if not, there is no argument. If this does not work, it may help to look for specific indications that some statement is meant as a conclusion or as a premise—if so, then there is probably an argument in the neighbourhood.

One mistake not to make is to assume that all arguments are *good* arguments; this is obviously not correct. There can be bad arguments, even stupid arguments; just as much as there can be good arguments. So do not draw the conclusion that something is not an argument simply because you do not find it believable. For something to be an argument, all that is required is that it be aimed at convincing you to believe the conclusion by providing something you are supposed to think is a reason. Being convincing is another matter.

Another error to avoid is mistaking explanatory claims for arguments. Suppose that Cherise comes to work late, and her boss asks what happened. Cherise says, “The explanation for my lateness is that my car broke down.” This is not an argument. Cherise is not trying to convince her boss that she is late, and she is not trying to convince her boss that her car broke down. Instead, Cherise is saying that one fact (her car breaking down) explains the other fact (her being late). Cherise’s statement might be true, if her car really broke down and if that is the main reason she is late. Cherise’s statement might also be false, if she is really late because she was helping a friend move, say. But the fact that her statement could be true or false itself shows that her statement is just that: a statement, and not an argument. Arguments are not the sorts of things that can be true or false, though they can contain true and false claims. Cherise could make an argument that this explanation is the correct one, but in the example, she does not actually do so. Rather, she just makes a claim about what explains her being late. In general, explanatory claims are not arguments, but simply claims about what is true. Some arguments are arguments over what explains what, so arguments and explanations are not totally unrelated. But the fact that one is trying to explain something does not mean that one is automatically making an argument.

There are many more complications that could be introduced, but these will be saved for unit 3. You have enough to think about for now!

Practice exercise 1

Look at the following paragraphs. Determine whether or not an argument is being made. Answers are in the Answers to practice exercises section.

- a. God doesn’t exist just because you want him to!
- b. When we went to the beach, Aunt Sally got stinking drunk back at the hotel room. We’d better not leave her alone tonight.

- c. Blankets don't "warm things up," as some people suppose, but simply trap air, whether warm (such as the air around a person's body) or cold (such as that around a snow sculpture), and keep it from circulating.
- d. I haven't heard from George since we had breakfast together some weeks ago. I wonder what has happened to him?
- e. More Americans believe that aliens are abducting people than believe that evolution has happened by means of natural selection. It just goes to show: Americans are nuts!
- f. You told me "It could be worse." But it can't. There's nothing blacker than pitch black, and nothing emptier than an empty room. Once you've hit bottom, the bottom is where you're at, and there's nowhere lower to go.
- g. The Second World War happened primarily because (a) Germany was resentful about the Treaty of Versailles; (b) America was openly isolationist throughout the 1930s.
- h. The Earth is flat. All you have to do is look and see that it is.
- i. There was no choice but for Trudeau to ram the constitution through without Quebec's support. He couldn't wait for the Parti Québécois to become federalist any more than he could wait for Hell to freeze over.
- j. Since God is dead, everything is permitted.

Interpretation: Identifying premises and conclusions

Arguments are built out of premises and conclusions. Once you have a rough idea for whether something is an argument or not, the next thing to do is to determine its premises and conclusions. How can you do this? Sometimes this is trivial. For example, imagine that you meet Flo, who makes the following argument:

Believe me, Canada is not the best country in which to live. I have three reasons for saying this: (1) I have a friend who is Swedish and who says Sweden is much better than Canada; (2) other countries have better health-care systems than Canada; (3) Canadian popular culture is very vulgar compared with that found in some other countries.

Now, it is perfectly clear what Flo wants you to believe and it is perfectly clear what reasons are being offered for you to believe it, thus the conclusion and the premises are made absolutely clear. The question however is whether or not this is a good argument. If you wanted to write to someone else and explain, in very precise detail, what the premises and conclusion were to Flo's argument, you would say something like the following.

Flo's argument is:

- Premise 1 Flo's friend, who is Swedish, says Sweden is much better than Canada.
- Premise 2 Other countries have better health-care systems than Canada.
- Premise 3 Canadian popular culture is very vulgar compared with that found in some other countries.

Conclusion Canada is not the best country in which to live.

Notice that, in this example, full sentences are always used. Because conclusions are the ideas people are putting forward to be believed, and premises are the ideas that are supposed to support belief in the conclusions, conclusions and premises are most clearly stated in the form of full sentences. Philosophers sometimes say that premises and conclusions take the form of *propositions*, a proposition being (roughly) an idea that requires a full sentence to express, such as “There is good surfing in Hawaii,” or “Karim is taller than Jamal.” There are some interesting philosophical points to be made here, but we need not go into them. It will be enough for present purposes to say that, if you are going to state someone else’s premise or conclusion, and do so in the clearest form possible, you will always need to use a full sentence, with both a grammatical subject and a grammatical predicate.

The above example of Flo’s argument is an easy one. But not every argument comes with numbered premises. When you are confident that something is an argument but you are not sure which statements are the premises and which the conclusion, there is no strategy to use that will guarantee that you reach the right answers. You have to determine what the author/speaker meant for you to believe (if anything) and what the author/speaker meant for you to take as reasons (if anything), and unless you can ask it will not always be easy to find out. (Even if you ask, it may still not be easy to find out. After all, it might not have been completely clear in the person’s mind when the argument was made, or the person might be motivated to lie to you about what the argument was.) Still, there are various things that may help you make your decisions.

Determining conclusions

Conclusions are sometimes introduced with words such as “thus,” “therefore,” “so,” “in conclusion,” and the like. Often, however, nothing special is done to distinguish a conclusion, so one cannot rely on these “indicator words.” In such cases, it may help to ask yourself, “Why am I being told X?” If the answer comes back “Oh, because the author/speaker wants me to agree that Angola needs a new capital city” or something of the sort, then one will have discovered the conclusion of the argument being presented.

Determining premises

Premises are sometimes introduced with words such as “since,” “because,” “given that,” “it being the case that,” and so on. As with conclusions, though, such words are not invariably attached to premises—the premises often arrive unannounced. In trying to identify premises, it may help to ask yourself “Why does the author/speaker expect me to believe *that*?” when thinking of the conclusion. If the answer is something the author/speaker is telling you in the same argumentative work, then you have probably identified a premise.

Here is another sample argument, a little more complex than the previous one.

Canada has a large debt. Paying the interest on that debt costs millions of dollars every year. Those dollars could be much better spent. Thus, Canada should place a high priority on debt reduction.

In this argument, there are no numbers on the premises, but the word “thus” appears to help us identify the conclusion. And once we see that the final sentence expresses the conclusion, then it becomes obvious that the previous sentences are all intended as support for that conclusion, and so should be considered as premises. The argument thus looks something like this:

Premise 1 Canada has a large debt.

Premise 2 Paying the interest on that debt costs millions of dollars every year.

Premise 3 Those dollars could be much better spent.

Conclusion Canada should place a high priority on debt reduction.

One thing you might have noticed about this argument and the one before is that, when the argument is reconstructed in detail, a few words get changed or left out. For instance, Flo says “I have a friend who is Swedish...” and yet the beginning of premise one says, instead, “Flo’s friend, who is Swedish...” Why the change? And in the above argument, the word “thus” is in the original version of the argument but then is left out of the reconstructed conclusion. Why? The basic answer is the same in both cases. In both cases, the changes come from the fact that I am reporting what someone else is arguing. When I reconstruct Flo’s argument, I state what she means, but I cannot use the same words. After all, if Flo says “I have a friend” and I want to report what she says, I can’t say I have a friend—it’s Flo’s friend, not mine. So I have to say “Flo has a friend.” Then, in the case of the missing “thus,” the point is that the word “thus” is being used to tell us that the conclusion is coming—it is not a part of the concluding idea itself. So when I report the conclusion, I leave out the word “thus” as not part of the conclusion. I have my own way of indicating the conclusion, namely, writing “Conclusion:” in front of it. What is important about these small changes is that they do not change the meaning of the argument itself. They are just those changes required for *me* to give a precise statement of the argument.

Here is one more sample argument, slightly harder again. Suppose that J.K. argues as follows:

All best-selling books should be printed on recycled paper. The consumer would hardly notice the extra cost. And the environmental benefit would be large if they were all printed on recycled paper.

Again, it is clear that an argument is being made. But what, exactly, is it? The answer is not easy to determine. There are no words like “in conclusion” to help us identify the conclusion, and no words like “since” to help us identify her premises. Nonetheless, it is possible to determine what argument is being made because it is possible to figure out what J.K. is trying to say to us. J.K. thinks certain books should be printed on recycled paper, and has two reasons for thinking so. These two reasons (low cost and large environmental benefit) are being put forward to convince us that the first sentence is true. So the first sentence must express the conclusion, and the second and third sentences must be the premises.

Premise 1 The consumer would hardly notice the extra cost of best-selling books printed on recycled paper.

Premise 2 There would be a large environmental benefit if all best-selling books were printed on recycled paper.

Conclusion All best-selling books should be printed on recycled paper.

Once again, a few words have been changed, but only what was necessary for clarity. The meaning has been left intact.

Organizing premises and conclusions into arguments

Premises and conclusions can be joined in simpler and more complex ways in order to form arguments. So perhaps it is time to look at a few of these possibilities, to know what to look for when interpreting arguments. In the simplest argument possible, one premise is offered as a reason to believe one conclusion.

The sky is greenish. So we can conclude a big thunderstorm is coming.

Premise The sky is greenish.

Conclusion A big thunderstorm is coming.

Often, things are more complicated. For instance, multiple reasons may be given which are intended to support the conclusion by their combined force.

The existence of cosmic background radiation, red-shifted light from other galaxies and the apparent age of the oldest stars together suggest that the universe is expanding from an original explosive event—a “big bang.”

Premise 1 Cosmic background radiation exists.

Premise 2 Light from other galaxies is red-shifted.

Premise 3 The oldest stars appear to have a certain age [which isn't mentioned, so we cannot fully state the third premise].

Conclusion The universe is expanding from an original explosive event—a “big bang.”

It may also happen that an author/speaker will provide multiple independent reasons for accepting the same conclusion. When this happens, multiple arguments are created. After all, an argument is a set of reasons aimed at getting someone to believe a conclusion, and so if one presents independent reasons to believe something, one has one set of reasons aimed at getting a person to believe it, and another set of reasons also aimed at the same thing, and so on.

Example

The fact that by 1966 leading advertising agencies were employing symbols of youth and rebellion demonstrates that the “counterculture” movement of the late 1960s and early 1970s was not as anti-establishment as it thought. The same point is made by the fact that the counterculture movement, by promoting non-conformity, indirectly promoted the purchase of ever-changing clothes and other material goods.

First argument

Premise 1 By 1966 leading advertising agencies were employing symbols of youth and rebellion.

Conclusion The counterculture movement of the late 1960s and early 1970s was not as anti-establishment as it thought.

Second argument

Premise 1 The counterculture movement, by promoting non-conformity, indirectly promoted the purchase of ever-changing clothes and other material goods.

Conclusion The counterculture movement of the late 1960s and early 1970s was not as anti-establishment as it thought.

It is time that you practised identifying the premises and conclusions of arguments on your own.

Practice exercise 2

Look at the following arguments, and identify their premises and conclusions, using the previous examples as models. Answers are in the Answers to practice exercises section.

- a. A Schizophrenia is not properly understood as a biological disease, since schizophrenics have a way of looking at the world, which often made sense in the context in which they were raised.
- b. Everyone likes pizza, so Glenn should order one.
- c. When a company comes to identify itself with some positive image or lifestyle, and then consumers learn that that company uses exploited labour, or is sexist, or treats its retail clerks badly, then that creates a consumer anger at the company's hypocrisy. Thus, the move in the corporate world toward promoting one's brand as an image and a representation of a lifestyle means that corporations are becoming more vulnerable to consumer outrage at immoral corporate practices.
- d. Acting in TV sitcoms is often really weird. Two characters will stand facing the kitchen, but kind of looking at each other out of the corners of their eyes, and have a conversation in that position. No one really talks like that. And characters are always making wild gestures with their arms, or waving their bodies side to side, or doing exaggerated things with their heads, and no one does stuff like that in real life.
- e. Since judges are not elected, and since even judges can be greedy, judges should not have the power to set their own salaries.
- f. Kurt Gödel proved that no consistent set of axioms for arithmetic suffices to derive all of the arithmetic truths that can be stated in that system. Thus, there are truths of arithmetic that cannot be proven.
- g. Wayne Gretzky was not the best hockey player ever. Gretzky didn't face the high concentration of talent on the opposing team that confronted, say, Maurice Richard. Gretzky benefited from rules about space behind the net and four-on-four play that came and went in the NHL. And he enjoyed a level of immunity from body checking that Richard, Lemieux, and the rest never had.

- h. John Lennon's song "Lucy in the Sky with Diamonds" has psychedelic imagery and distorted vocals. It was also created shortly after Lennon began using LSD. And the song forms the initials LSD. It is clear that the song is about LSD. Besides, some of the particular lyrics ("everyone smiles as you drift past the flowers/that grow so incredibly high") can't be interpreted any other way.
- i. Phyllis should order the spanikopita—it's vegetarian and delicious.
- j. One has to be crazy to be an ice-climbing enthusiast. Glaciers have hidden crevasses, you can never tell when you're walking on ten meters of ice or a 20-cm thick ice bridge, the weather at high altitudes is always unpredictable and there are no permanent, safe climbing routes.