Sophia

Introduction to Arguments

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☰ WHAT'S COVERED

In this tutorial we will take a look at the main parts of an argument and see how these parts function to make a successful or unsuccessful argument. Our discussion will break down like this:

1. Arguments
2. Factual Claims
3. Inferential Claims
4. Distinguishing Factual and Inferential Claims

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1. Arguments

You use **arguments** all the time, whether you know it or not. Whenever you offer one or more statements in support of another statement, you are giving reasons for someone to accept a claim. Consider the example of an argument found in everyday speech and pay attention to how we break it down into its parts.

Argument: Adena's car broke down, so she will be late.		
PREMISE	"Adena's car broke down"	A premise claims to say something true of the world. In other words, it is a **factual claim**.
CONCLUSION	"she will be late"	A conclusion claims to say what follows from the premise(s)

By claiming that the conclusion follows from the premise (indicated by the word "so"), an **inferential claim** has been made.

Some arguments can be less direct.

> ↗ EXAMPLE If someone asked you where Ricardo's pen went, and you said "His pen was on the table, but Sarah wasn't writing", you would be *suggesting* that, since Sarah wasn't writing, she didn't take Ricardo's pen.

The conclusion (that Sarah didn't take the pen) is only implicit in what you said, but you would be asking someone to make that inference in an indirect way.

> **📄 TERMS TO KNOW**
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> **Argument**
>   A group of statements containing both a factual claim or claims and an inferential claim or claims.
>
> **Factual Claim**
>   A claim that some fact or facts obtain in the world.
>
> **Inferential Claim**
>   A claim that the premises support the conclusion.

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2. Factual Claims

As we have just seen, an argument will have a premise (or set of premises) that is supposed to support a conclusion. But the premise (or set of premises) may itself be wrong.

> ↗ EXAMPLE Consider these two arguments:
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> 1. "Egypt has ancient architecture, so it would be great for sightseeing."
> 2. "Pigs can fly; therefore, we should restrain them so they don't get away."

The premise in (1) is clearly true, whereas the premise in (2) is clearly false. Egypt has pyramids and temples from ancient civilizations. But pigs cannot fly. Whether or not the inference made in each is successful is another question. For now, we just want to look at whether or not the factual claims are true.

It is not always as straightforward to identify whether or not a premise is true.

> ↗ EXAMPLE If you said: "They are dangerous; therefore, we should protect ourselves", you would be making a factual claim (the premise that there are some dangerous people) and an inferential claim (that this gives us reason to protect ourselves).

But what if they aren't dangerous? If you ask "is it true that they are dangerous?" and it turns out not to really be a fact (perhaps you received bad information), then you wouldn't have a good reason to draw the conclusion.

⭐ **BIG IDEA**

Factual claims can turn out to be false, even though they are presented as facts.

3. Inferential Claims

Just as factual claims can turn out not to be accurate, an inferential claim can fail to show that a premise supports a conclusion.

IN CONTEXT

Imagine someone asks you whether you thought your friend, Amy, was going to pass her exams, and you said the following:

"Amy likes to have a good time and hates school; therefore, she won't pass."

Here you have given two premises (premise (1) is the factual claim that Amy likes to have a good time, and premise (2) is the factual claim that Amy hates school), and offered the inferential claim that these premises support the conclusion (that Amy won't pass her exams). But does the conclusion follow from the premises?

If you want to know whether the inferential claim is successful or not, then you can ask the question: "assuming all premises were true, would they support the conclusion?"

In the context of your friend's chances in the exams, if we assume that she really does like to have a good time and hates school, do they support the conclusion that she will fail her exams? No, because it is perfectly possible for Amy (or anyone else) to like to have a good time, hate school, and *still* do well in her exams.

It may not have been obvious to see that the inference doesn't work in the above example; this is because we may often associate having a good time with not focusing on other commitments. Sometimes the quality of an inference is much more obvious.

↗ EXAMPLE Consider these two arguments:
1. "You come from a different country; therefore, you must be up to no good."
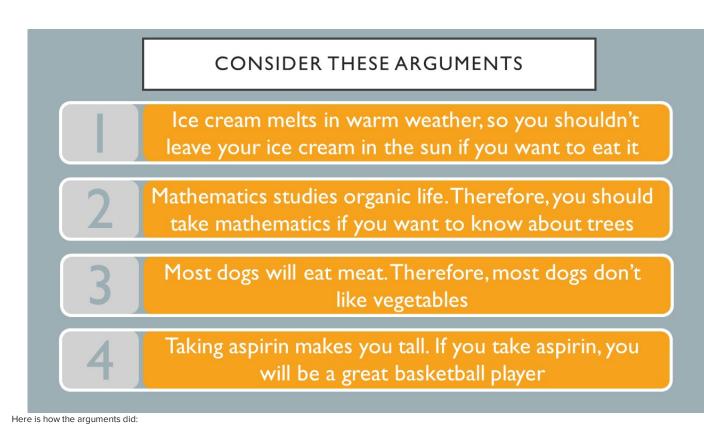2. "My home is burning down, so I need to get out."

The inference in (1) is clearly incorrect since someone's country of origin does not, of itself, tell us anything about their intentions. The inference in (2) is clearly correct since humans are injured by fire and must avoid it in order to remain healthy.

4. Distinguishing Factual and Inferential Claims

The factual claim and the inferential claim must be evaluated separately if you are going to find out whether or not an argument works.

📝 **TRY IT**

Thinking about what you've learned so far, evaluate each of these arguments by identifying whether or not the facts are correct and whether or not the inferences work:

CONSIDER THESE ARGUMENTS

1 Ice cream melts in warm weather, so you shouldn't leave your ice cream in the sun if you want to eat it

2 Mathematics studies organic life. Therefore, you should take mathematics if you want to know about trees

3 Most dogs will eat meat. Therefore, most dogs don't like vegetables

4 Taking aspirin makes you tall. If you take aspirin, you will be a great basketball player

Here is how the arguments did:

- Number 1 has good facts since it is true that ice cream melts in warm weather. And it has good inferences since this fact supports the conclusion that you won't be able to eat ice cream if you let it melt.
- Number 2 has bad facts since mathematics is the study of numbers rather than the study of organic life. However, it does have a good inference since, if it were true that mathematics was the study of organic life, then it would follow that you should study it if you wanted to know about trees.
- Number 3 has good facts since it is the case that most dogs will eat meat. But it has a bad inference since the premise does not support the conclusion. The fact that dogs eat meat does not entail that they won't eat vegetables.
- Number 4 has both bad facts and bad inferences. It is not true that aspirin makes humans tall if they take it. Moreover, even if this were true, the premise would not support the conclusion. This is because being tall doesn't guarantee that you will be a great basketball player.

Although we have been stressing that arguments are used very often (perhaps more often than we think), it is important to recognize that many instances of speech and writing are not arguments.

⟶ EXAMPLE Consider these passages:
1. "The volcano erupted at 3 a.m."
2. "Beware of slippery surface."

Neither of these offer a premise that is supposed to support a conclusion. The first example is a simple report; the second a warning. They are conveying information, but they are not claiming to prove something. In this sense, they are non-inferential statements.

📋 **SUMMARY**

We started this tutorial by looking at what makes up the parts of an **argument**. Then we learned a bit about each main part. First, we saw that the **factual claim** is the premise of an argument, which claims to say something true of the world. Then we saw that the **inferential claim** aims to show that the premises support a conclusion.

Finally we considered the process of **distinguishing factual and inferential claims** in order to evaluate arguments, before highlighting statements that do not intend to make an argument.

📄 **TERMS TO KNOW**

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