



Fact vs Opinion vs Argument

Facts. Opinions. Arguments. We deal with them all the time, often deciding to give weight to one or the other on the basis of instinct alone, without asking ourselves why. In most day-to-day situations we have to operate that way.

However, when writing a position essay for a general audience, you need to slow down, take a deep breath, and think carefully in terms of facts, arguments and opinions. What facts does the reader take for granted? When will the reader take your opinion at face value? Which conclusions need to be documented? On what matters is the reader open to persuasion?

To answer those questions effectively, you must have a clear idea of the difference between facts, opinions and arguments.

Almost all essays involve arguments of one sort or another. Position essays try to convince the audience of something that is not already their belief. Without an argument, there is no point in writing. However, sometimes it is not necessary to make the argument explicitly. Other times, it is not necessary to state all the premises of the argument. Making sound judgements in these matters is critical to the success of a position essay.

A Few Quick Examples

Let's look at some quick examples to get a better idea of what we're talking about here. What is the difference between the following three statements?

1. It's 32 degrees Celsius outside. This is a fact.
2. It's too hot outside. This is an opinion.
3. It's 32 degrees Celsius outside. I have to run a marathon today, and I could get heat stroke. Therefore, it's too hot outside. This is a deductive argument, with the unstated premise (a value judgement) that it is bad to get heat stroke.

Let's look at some other examples:

1. XL Industries' widgets cost \$3,954. This is a fact.

2. XL Industries' widgets are too expensive. This is an opinion.
3. XL Industries' widgets cost \$3,954. Acme Industries' widgets are the exact same quality, but they only cost \$3,622. Therefore, XL Industries' widgets are too expensive. This is a deductive argument, with the unstated premise (a value judgement) that it is bad to pay more money for a widget of exactly the same quality.
4. XL Industries widgets cost 9 percent more than those of Acme Industries. However, both do the same thing equally well. Therefore, XL Industries' widgets are too expensive. This is a deductive argument, with the unstated premise (a value judgement) that it is bad to pay more money for a widget that a cheaper widget does equally well. This is of the exact same nature as the previous statement.

It is often unnecessary to state all the premises in a deductive argument; often you can assume that the audience takes some premises for granted. However, you do need to exercise care here. In taking premises for granted, make sure that your audience knows what you know and shares the values that you do.

In some cases, you might not need to present an argument at all. You might be able to get away with simply stating an opinion. For example, if you know that your audience trusts your judgement in such matters, you might be able to skip the argument and simply say, "XL Industries' widgets are too expensive." This is a judgement call that only you can make.

Note that the statement "both are of the same quality" is the conclusion of an unstated argument. In making such statements, make sure that your audience will trust your judgement. Otherwise, you will have to spell out the unstated argument.

What is happening in the following series of statements?

1. XL Industries' widgets cost \$3,954. This is a fact.
2. Acme Industries' widgets cost \$3,622. This is a fact.

benefit more from letting climate change proceed? Or would society benefit more from controlling climate change? These are questions that must be asked in deciding what to do about climate change.

In a Nutshell

Note that these questions involve both inductive and deductive arguments, and the deductive arguments often involve intangible values. In conducting any argument, do all you can to learn about:

- What inductive and deductive premises your adversary relies on to support his or her position;
- What values underlie the deductive premises.

Only by focusing on the premises (and their underlying values) – not the conclusion – can you make progress in an argument. By the same token, it is equally important to be aware of what premises underlie your own position – what inductive arguments, what deductive arguments, and what values you hold. By gaining this awareness, you become better equipped to defend your position – and you also become better equipped to make an intelligent change in your position if your adversary marshals an effective argument.

and that there should indeed be only 14 cats today. Agnes might have retorted with equal anger that Mary was the one who was wrong, and things would have gone downhill from there. Instead of attacking Agnes's conclusion, however, Mary asked: "Agnes, why do you think there should be another four white cats in the pet shop?" In other words, she took the trouble to learn all the premises of Agnes's argument. Of such questions are effective arguments built and alliances forged. In briefing your minister, you may not have the opportunity to ask such questions directly. Even so, it can be invaluable to speculate on how the minister might answer such questions. Better still, approach others (a member of the minister's staff) to ask what the minister's position is or is likely to be on a given issue. Doing so will leave you better equipped to write successful memos and letters.

Climate Change – Inductive Arguments

Let's go back to the case of the minister who does not accept that the global climate is warming. This position is actually not a matter of fact in itself. Rather, it is the conclusion of an inductive argument. The ingredients of that argument would be facts. One would look at generally accepted temperature records from the past 100 years to find those ingredients. If, as a rule, those readings show that temperatures world wide have been getting warmer, it would be reasonable to draw the inductive conclusion that the global climate is warming and will continue to do so. To persuade your minister of this conclusion, you need only present him or her with facts from sources that he or she recognizes are authoritative.

Arguments

Accepting that the climate is warming is one thing. Deciding what, if anything, to do about it is an entirely different proposition.

Arguments of this nature generally centre on two questions:

- Is the climate warming because of greenhouse gas emissions?
- What will be the consequences of global warming?

I will avoid addressing the first question. It deals with scientific arguments that are more complex than I am able to judge. For the sake of this argument, I will accept that the climate is warming because of greenhouse gas emissions.

The second question is only slightly easier to come to grips with. Scientists have a fairly good idea of what will happen if the climate keeps warming at present rates. There will be more extreme weather events such as droughts. Glaciers will melt, thus raising sea levels. Coastal cities will be faced with urban engineering challenges. Arctic ice will melt, thus opening new shipping lanes but also threatening certain species. Some species will become extinct. Other species will flourish in regions where they could not before. Some cultures, whose way of life revolves around the weather and the species it supports, will change forever. The list could go on at quite some length.

Conversely, we also have some general ideas about what it would mean to fight climate change by reducing greenhouse gas emissions. We would have to reduce our use of fossil fuels significantly. This would mean either reducing our use of energy or finding alternative sources of energy that emit fewer greenhouse gases. It might also mean managing our biosphere more effectively – ensuring, for example, that dead plants don't just rot on the ground and emit carbon dioxide, but are instead used in other ways that are more productive. All of these options would have implications for our economy, our environment and our lifestyles. Some of those implications would be good and some would be bad. But honest, well-meaning people might disagree on which are good and which are bad.

Thus, the argument needs two sets of facts in order to proceed: 1) What would it cost – in social, economic and environmental terms – to reduce greenhouse gas emissions? and 2) What would it cost – in social, economic and environmental terms – to let climate change proceed unchecked? And, once given those two sets of facts, what underlying values are most important to us?

Deductive arguments about climate change must take account of all of these factors. Under a given set of values, would society benefit more from letting climate change proceed? Or would society

Arguments are what can change the world peacefully. People with differing opinions can scream at each other endlessly, but that won't change anyone's mind (unless one party gets tired of the screaming and simply gives up in order to get some peace and quiet). If we want to change things without screaming, we must resort to arguments. Let's look at two types of arguments that we deal with: **inductive** and **deductive**.

Cats — Inductive Arguments

Inductive arguments deal with the process of deciding whether conclusions can be drawn about facts. Take the matter of the cats in the pet shop:

- Agnes counts the animals in the pet shop and concludes that there are 14 cats. That is just one piece of ammunition in an inductive argument.
- Next, Agnes's friend Jane counts the animals, and she finds that there are 14 cats. That is another piece of ammunition in the inductive argument.
- Then Jim, Agnes's next door neighbor, counts the animals and he finds that there are 14 cats. That is still more ammunition.
- Agnes asks another five people to count the animals, and they all report that there are 14 cats. That is another five pieces of ammunition.

Based on those eight observations, most reasonable people would draw the conclusion that there are indeed 14 cats. They would not feel a need to ask more people to count the cats.

However, that does not rule out the possibility that at a later time someone else might come along and count 9 cats or 18 cats. Perhaps a few of the cats were hiding before, or perhaps a few of the cats have gone into hiding since.

Such is the nature of inductive arguments, and such is the nature of science. We can never be sure when a new observation will be made that challenges the *facts* observed in previous observations. At the same time, though, most reasonable people would accept that the conclusion is valid after eight observers report exactly the same numbers. That is what inductive arguments are all about.

Cats — Deductive Arguments

Deductive arguments differ significantly from inductive arguments. They take a number of premises and link them with conclusions in a way that cannot be

observed scientifically but can be seen through deductive logic to be valid. Those premises are often combinations of facts (or inductive conclusions), assumptions and intangible values. Combined with reasoning, those facts, assumptions and values become an argument.

Let's go back to the cats. We have the inductive conclusion that there are 14 cats in the pet shop. From that, Agnes drew the deductive conclusion that there should be another four cats in the pet shop. Linking the two, however, there is a deductive argument that involves a further premise that has not been stated yet. We'll get to that in a moment.

Option 1 is for Agnes and Mary to simply disagree with each other (and possibly get angry at each other in the process).

Option 2 is for Agnes and Mary to analyze each other's arguments to see if they can't find a way to reconcile their respective positions.

Mary decides that she doesn't want to simply disagree with Agnes, so she asks: "Agnes, why do you think there should be another four cats in the pet shop?"

"Well," Agnes replies, "I counted them yesterday at noon, and there were 18 cats. That means that four cats are missing."

"Not so, Agnes", says Mary. "The fact is that someone came into the shop yesterday afternoon and bought four cats."

"Oh", Agnes says, somewhat sheepishly, realizing that she had drawn a faulty deductive conclusion because she had failed to get all the facts. In the course of doing so, she added an assumption – an unstated premise – to her facts..

Here is how she made this error:

- Agnes counted the animals yesterday and found that there were 18 cats.
- Agnes counted the animals today and found that there were 14 cats.
- Agnes assumed that nothing had happened in the interim that would legitimately change the number of white cats. This is the unstated premise.
- She concluded that there should be 18 cats today, not 14.

Mary, as it turns out, adopted the perfect strategy in refuting Agnes's conclusion. She could have simply responded angrily that Agnes was wrong,

3. Brown Corporation's widgets cost \$3,158. This is a fact.
4. Presto Inc.'s widgets cost \$3,285. This is a fact.
5. Westco's widgets cost \$3,741. This is a fact.
6. North Pacific Corp.'s widgets cost \$3,346. This is a fact.
7. Widgets cost between \$3,000 and \$4,000. This is the conclusion of an inductive argument, using the facts observed above as premises.

How would you describe the following statement?

Widgets cost between \$3,000 and \$4,000.

Doodads cost between \$5,000 and \$6,000. Both widgets and doodads would solve the problem we are facing. Doodads do a better job, but we can't afford more than \$4,000. Therefore we should buy a widget.

This is a deductive argument, using two opinions ("we can't afford more than \$4,000" and "widgets would solve the problem") and the conclusions of inductive arguments (the costs of widgets and doodads) as premises to deduce the conclusion.

Note that the premises could be challenged. In all inductive arguments, it is possible that if you look a little further you might observe an example that invalidates what you concluded before. If you look long enough, for example, you might eventually find a doodad that costs only \$3,954.

The opinions could also be challenged. You might find, for example, that the cost savings of using doodads are so substantial that it is worth paying the extra money for them. Or you might be able to find \$1,500 in savings elsewhere in the budget that would enable you to pay \$5,500 for a doodad.

The moral of the story is that an argument is never any stronger than its premises. Make sure that your audience won't be able to challenge yours.

Now let's look at two more examples in detail.

Facts

Facts should not be open for debate. All parties should be able to draw the same conclusions about facts when they observe the same phenomenon.

For example:

Cats

Let's say that Agnes observes a pet shop full of 73 animals. She counts them, and she finds

that 14 of them are cats. That observation is a matter of fact. Anyone else should be able to count those animals and be able to say that there are 14 cats.

Climate Change

When addressing your minister, you know that he or she takes some facts for granted. For example, he or she might take it as a given that our planet's climate has been warming over the past century or so. That is a given that you do not have to document. If, on the other hand, your minister does not accept that as a fact, your first task may be to convince him or her that this is indeed a fact. You might have to identify a source whose authority your minister respects in order to convince him or her that this is indeed a fact.

Opinions

Now that we've looked at facts, let's examine opinions about the facts.

Cats

Having counted the cats, Agnes concludes that there should be another four white cats in the pet shop. That is an opinion. How Agnes arrived at that opinion is another issue. If everyone she knows agrees that there should be another four cats in the pet shop, it doesn't really matter how she arrived at that conclusion. If there is disagreement on that, however, then Agnes will need to discuss this with the people who disagree. They will try to convince Agnes that there is no need for another four cats in the pet shop. And Agnes will try to convince them that there is indeed a need for another four cats.

Climate Change

Moving back to climate change, let's assume that both you and your minister are now agreed that the climate has indeed been warming over the past century or so. The next question is whether something can or should be done about it. You might be of the view that something can and should be done, while your minister might think that nothing can or should be done. You have two opposing opinions on the matter.

Arguments

That brings us to the realm of arguments. If two opposing opinions are to be reconciled, each party will have to marshal arguments for his or her position and consider the arguments presented by the other party.