

Critical Thinking

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Lecture 6

MGM115
Critical Thinking



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

EVALUATING ARGUMENTS AND TRUTH CLAIMS

Mostly from Critical Thinking, Bassham and others

EVALUATING ARGUMENTS AND TRUTH CLAIMS

This lecture includes:

- **What “Good Argument” Does Not Mean**
- **What “Good Argument” Does Mean**
- **WHEN IS IT REASONABLE TO ACCEPT A PREMISE?**
- **REFUTING ARGUMENTS**

In this chapter we use this tool kit of skills to determine when is an argument a good one? We will also address an issue that is crucial in argument evaluation, namely: When is it reasonable to accept a premise as true?

Finally, we will learn some powerful strategies for refuting bad arguments.



WHEN IS AN ARGUMENT A GOOD ONE?

Arguments can be good or bad in various ways. To help us understand what a good argument is from the standpoint of critical thinking, we begin by spelling out a few things that a good argument is not.

What “Good Argument” Does Not Mean

“Good Argument” Does Not Mean “Agrees with My Views” One of the most serious mistakes in critical thinking is to confuse “good argument” with “argument whose conclusion I agree with.”

To suppose that an argument is good only if it agrees with your own preexisting opinions is the epitome of close-mindedness. It reflects the mind-set of someone who thinks, “I have a monopoly on the truth. Anyone who disagrees with me must be wrong.” Such an attitude makes it impossible to learn from viewpoints that differ from one’s own and is completely opposed to the spirit of critical thinking.



What “Good Argument” Does Not Mean

“Good Argument” Does Not Mean “Persuasive Argument”. A good archery shot hits the bull’s-eye. A good putt goes in the hole. A good pair of scissors cuts the paper efficiently. In many contexts a thing is said to be good if it does successfully what it was intended to do. Does this hold true of arguments as well? Is a good argument a persuasive argument—that is, an argument that actually succeeds in convincing an audience to accept a conclusion? Not necessarily—for two reasons.

What “Good Argument” Does Not Mean

First, not all arguments are meant to persuade. Sometimes the arguer is just “playing devil’s advocate,” or “preaching to the choir,” or “going through the motions,” or “thinking out loud,” or giving examples without any intention of persuading anybody.

Second, bad arguments often persuade, whereas good arguments often fall on deaf ears. In the years leading up to World War II, for example, Hitler’s demagogic ravings convinced millions, whereas Churchill’s well-founded warnings were largely ignored. Yet no critical thinker would suggest that Hitler’s arguments were, therefore, “better” than Churchill’s.

What “Good Argument” Does Not Mean

“Good Argument” Does Not Mean “Well-Written or Well-Spoken Argument”.

We sometimes praise arguments for their literary or rhetorical merit—their clarity, eloquence, organization, imaginativeness, and the like. Does it follow that a good argument is, or must be, a well-written or well-spoken argument? No, because some obviously bad arguments possess literary merit, whereas some obviously good ones do not. A subtly deceptive political speech may be a masterpiece of rhetorical skill and still be seriously flawed from the standpoint of critical reasoning. By the same token, an argument in, say, science or mathematics may be a perfectly good argument but possess little or no literary merit.

What “Good Argument” Does Mean

In Chapter 3 we learned that a good argument is basically an argument in which two conditions are met: **All the premises are true, and the premises provide good reasons to accept the conclusion.**

We also learned in Chapter 3 that a set of premises provides good reasons to accept a conclusion when the argument is either **deductively valid** or **inductively strong**.

(Remember: An argument is deductively valid if the conclusion must be true if the premises are true. An argument is inductively strong if the conclusion is probably true if the premises are true.)



What “Good Argument” Does Mean

Arguments that are both deductively valid and have all true premises are said to be deductively sound. Arguments that are both inductively strong and have all true premises are said to be inductively cogent. Thus, a good argument, fundamentally, **is an argument that is either deductively sound or inductively cogent.**

As we saw in Chapter 1, there are certain basic critical thinking standards that all good thinking and argumentation must meet. Among the most important of these **standards are clarity, precision, accuracy, relevance, consistency, logical correctness, completeness, and fairness.**

- **Are the arguer's claims logically consistent?** Do any of the arguer's claims contradict other claims made in the argument?
- **Is the argument complete?** Is all relevant evidence taken into account (given understandable limitations of time, space, context, and so on)?
- **Is the argument fair?** Is the arguer fair in his or her presentation of the evidence and treatment of opposing arguments and views?

- Are the premises true?
- Is the reasoning correct? Is the argument deductively valid or inductively strong?
- Does the arguer commit any logical fallacies?
- Does the arguer express his or her points clearly and precisely?
- Are the premises relevant to the conclusion?

It is reasonable to accept a claim if

- (1) The claim does not conflict with personal experiences that we have no good reason to doubt,**
- (2) The claim does not conflict with background beliefs that we have no good reason to doubt**
- (3) The claim comes from a credible source.**

Let's briefly discuss these three conditions



1- Does the Claim Conflict with Our Personal Experiences? Sometimes people assert claims that conflict with our own personal observations and experiences. When this happens it is usually best to trust our own experiences. For example, if your neighbor's Doberman pinscher is snarling, foaming at the mouth, and chewing on the tattered remnants of a mail carrier's bag, it is probably a good idea to trust your own eyes rather than your neighbor's assurance that his dog is "as gentle as a kitten."



1- Does the Claim Conflict with Our Personal Experiences?

The problem is that people often place too much trust in their own observations and experiences. We often overestimate the reliability of our observations by failing to consider such factors as poor physical conditions for making observations (e.g., excessive noise); sensory impairment (e.g., poor vision or hearing; and failures of memory.

Indeed, studies show that even under good observational conditions, people are often much less accurate in their observations than they generally assume. Critical thinkers also recognize that their beliefs, hopes, fears, expectations, and biases can affect their observations.

In short, personal experiences are often less reliable than we think. We need to be aware that often “believing is seeing” and that things are not always as they appear.



2- Does the Claim Conflict with Our Background Beliefs?

Sometimes a claim doesn't conflict with any of our personal observations or experiences but does conflict with certain background beliefs we hold. By "background beliefs" we mean that vast network of conscious and unconscious convictions we use as a framework to assess the credibility of claims that can't be verified directly. In general, if a claim fits well with our background beliefs, it is reasonable for us to accept it. For example, the claim, "It was hot in Las Vegas last Fourth of July," is quite believable given background information most of us share about midsummer weather conditions in the Nevada desert. The claim, "It snowed in Las Vegas last Fourth of July," however, would rightly be rejected out of hand unless it was accompanied by strong supporting evidence.



3- Does the Claim Come from a Credible Source?

Much of what we believe about the world is based on testimony or authority. A crucial question for critical thinkers is When is it reasonable or justifiable to accept a claim based simply on the testimony or authority of another?



To refute an argument isn't merely to challenge, rebut, or criticize it. **It is to defeat it, to show that the premises do not provide convincing reasons to accept the conclusion.** Arguments can be criticized in various ways (e.g., as obscure, wordy, or repetitious). But there are only two ways in which an argument can be refuted:

1. Show that a premise—or a critical group of premises—is false or dubious.
2. Show that the conclusion does not follow from the premises.



Show That a Premise—or a Critical Group of Premises—Is False or Dubious

Sometimes it is possible to defeat an argument by showing that a single premise is false.

Consider this example:

1. All presidents live in the White House.
2. Paris Hilton is president.
3. So, Paris Hilton lives in the White House.

Here, simply noting that the second premise is false is enough to refute the argument.



Show That a Premise—or a Critical Group of Premises—Is False or Dubious

Arguments can often be defeated simply by showing that one or more of their premises are dubious, that is, open to significant doubt.

Consider this example:

1. The last surviving dinosaur was a Triceratops.
2. Triceratops had horns.
3. So, the last surviving dinosaur had horns.

The weak point of this argument is clearly the first premise. That fact alone is enough to show that the premises do not provide good reason to accept the conclusion.

Ways to demonstrate that a premise is false or dubious

- **Appeal to personal experience** (“What do you mean ‘There are no bears in New Jersey’? I’ve seen several.”)
- **Appeal to common knowledge** (“Everybody knows Germany lost the Second World War.”)
- **Appeal to a reputable reference source** (“Wrong again, sports fan. It says in The Sports Encyclopedia: Baseball that Mickey Mantle was the American League MVP in 1957.”)
- **Note that the premise is self-contradictory or otherwise false or dubious on its face** (“How can Adam Sandler be an aunt?! Only women can be aunts!”)

Ways to demonstrate that a premise is false or dubious

- **Point out that the premise conflicts with some other premise in the argument** (“You say it’s wrong to eat animals, yet you say it’s OK to eat fish. But aren’t fish animals?”)
- **Show that the premise is based on an unwarranted assumption or stereotype** (“How can you say that most illegal immigrants don’t want to learn English?”)
- **Personally demonstrate that the claim is false or dubious** (“Snowcones can give you a brain freeze. Here, take a big bite of mine.”)

Ways to demonstrate that a premise is false or dubious

- **Reducing to the absurd** (*reductio ad absurdum*, in the traditional Latin) is attempting to show that a statement is false by proving that it logically implies something that is clearly false or absurd. Suppose your roommate says that “ absolutely all killing is wrong.” You could reduce this claim to the absurd— and hence refute it—by pointing out that this implies that it is wrong to eat any plants or animals (since this usually involves killing) or even to breathe or brush your teeth (since these acts kill microorganisms). The claim, taken literally, has absurd implications and so is false.

Ways to demonstrate that a premise is false or dubious

- **Refutation by counterexample** . A counterexample, in this context, is an example that proves that a general claim (i.e., a claim of the form “All A’s are B’s” or “Most A’s are B’s”) is false. Suppose you say, “All twentieth-century U.S. presidents have been rich.” I could refute your universal claim by means of a single counterexample (“Wait a minute. Harry Truman wasn’t rich by any stretch of the word.”). Or suppose I say, “Nearly all post–World War II presidents have been Republicans.” You could refute my claim by noting that Truman, Kennedy, Johnson, Carter, Clinton, and Obama were all Democrats.

Show that Conclusion Does Not Follow from the Premises

The second way to refute an argument is by **showing that the reasoning is faulty—that the conclusion does not follow properly from the premises**. You can show that an argument is poorly reasoned by showing that it is either:

- (a) **deductively invalid** (the conclusion does not follow with strict necessity from the premises) or
- (b) **inductively weak** (the conclusion does not follow probably from the premises).

Show that Conclusion Does Not Follow from the Premises

- The most important questions to ask in assessing the logic of an argument are
- **If the argument is deductive, does the conclusion follow necessarily from the premises?** (Do the premises, if true, absolutely guarantee the truth of the conclusion? Or could the premises conceivably be true and the conclusion false?)
 - **Are the premises relevant to the conclusion?** (Does the argument, for example, commit the fallacy of straw man, personal attack, or some other fallacy of relevance?)
 - **Are the premises sufficient to support the conclusion?** (Even if we assume all the premises are true, do they provide enough support to justify the conclusion?)

Show that Conclusion Does Not Follow from the Premises

Even if you agree that all the premises in an argument are true and relevant, you can still refute the argument if **you can show that the premises do not provide adequate support for the conclusion**. Sometime because the arguer has omitted important evidence that points to a contrary conclusion.

Examples:

Get high-speed Internet access by satellite. It's fast, reliable, and won't tie up your phone lines. **(the cost & high price)**

All mothers should stay home with their young kids. It would promote closer family ties, and studies show that children with stay-at-home moms do better in school, have higher self-esteem, and are less likely to get involved with drugs or commit crimes. **(economic and social costs of removing working mothers)**

1- A good argument is an argument that satisfies the relevant critical thinking standards that apply in a particular context. The most important critical thinking standards are accuracy (Are the premises true?) and logical correctness (Do the premises, if true, provide good reasons to accept the conclusion?). There are, however, other critical thinking standards that should also be considered in evaluating arguments. Among these are clarity, precision, relevance, consistency, completeness, and fairness.

2. In general, it is reasonable to accept an unsupported claim as true when (1) the claim does not conflict with personal experiences that we have no good reason to doubt, (2) the claim does not conflict with background beliefs that we have no good reason to doubt, and (3) the claim comes from a credible source.

3. To refute an argument is to defeat it—to show that the premises do not provide good reasons to accept the conclusion. There are two ways to refute an argument: (1) show that a premise—or a critical group of premises—is false or dubious, or (2) show that the reasoning is bad—that the premises do not provide adequate logical support for the conclusion.

Two often effective strategies for showing that a premise is false are reducing to the absurd (*reductio ad absurdum*) and refutation by counter example.

Key questions we should ask in evaluating arguments include the following:

- **Are the premises true?**
- **Is the reasoning correct? Is the argument deductively valid or inductively strong?**
- **Does the arguer commit any logical fallacies?**
- **Does the arguer express his or her points clearly and precisely?**
- **Are the premises relevant to the conclusion?**

- **Are the arguer's claims logically consistent? Do any of the arguer's claims contradict other claims made in the argument?**
- **Is the argument complete? Is all relevant evidence taken into account (given understandable limitations of time, space, context, and so on)?**
- **Is the argument fair? Is the arguer fair in his or her presentation of the evidence and treatment of opposing arguments and views?**

Thank you