



AVOIDING COMMON ERRORS IN LOGIC AND REASONING

The goal of scholarly writers is to present original ideas and convince readers that these ideas are valid by setting forth well-reasoned and organized arguments. In order to persuade a reader successfully, a writer must clearly present her *thesis*—the main idea that she wants to explore or defend—, explain her *premises*—the reasons why she believes the main statement is true—, and provide relevant *evidence* to demonstrate that each of her premises is, indeed, reasonable. When you break down the parts of a paper into thesis, premises, and evidence, constructing an argument sounds deceptively easy. In practice, as you know, it can sometimes be difficult to judge whether you have communicated a logical defense of your ideas. Once you have been working on an essay for a while, you can get so caught up in the details that it becomes impossible to see the argument as a whole or recognize gaps or errors in your reasoning. One strategy you can use to gain perspective on a paper is to show it to a friend and ask her to identify where the structure of your argument or your ideas are unclear. Or you can write an outline that records the main points of your paper in full sentences and thus reveals the structure of your thoughts. (For detailed advice on using outlines, see the Writing Center’s handout, “Outlines.”) You can also use this list of errors in logic and reasoning to guard against some common mistakes.

Student writers frequently weaken their arguments when they rely on **unstated or invalid assumptions**. An assumption is a statement or idea that you accept as true without proof or demonstration. Suppose, for instance, that a student is writing a politics paper that argues against NATO involvement in the Bosnian conflict. The author may believe that, given the long history of ethnic and political fighting in this region of the former Yugoslavia, any peace settlement is doomed to failure. If the writer assumes this is true, he may also believe that he does not need to explore or defend his underlying assumption because all of his readers believe it as well: namely, that the politics of the past inevitably determine the future. But readers may not agree, and they may not be able to follow an argument that simply takes as a given that peace in Bosnia is impossible. In addition, if the author’s supposition is left unexplored, any argument he presents against NATO intervention will be incomplete.

Unstated assumptions can also lead to the serious logical error of ***non sequiturs***. *Non sequitur* is Latin for “it does not follow,” and it refers to a conclusion that does not grow logically from the evidence. Suppose the author of the paper on Bosnia writes that there is a long history of war in Bosnia and provides pages of historical evidence to show that this is true. Even if he demonstrates that there has been a pattern of conflict in the region, the author’s conclusion that all future efforts at peace will fail does not necessarily follow.

Among the most problematic types of assumptions, stated and unstated, are those that are based on personal **prejudices or stereotypes**, such as the idea that one (or both) of the two main parties in the Bosnian conflict, Serbs or Bosnians, are “by nature” aggressive or unscrupulous people. If a writer who holds such an opinion explores why he thinks peace will necessarily fail

in Bosnia, he may discover that stereotypes are at the root of his claim, and that his ideas are therefore invalid.

Even if you are careful to avoid unfounded suppositions in your own work, you may face the delicate task of writing about an author who makes false assumptions or holds certain prejudices. When you discuss this writer's ideas, always make clear that these attitudes are hers, not your own. If you are writing, for instance, about the prejudices that have infected the debate about Bosnia, you could state that, "According to Y, the tumultuous history of Bosnia reveals the passionate nature of its inhabitants." This phrasing makes clear that author Y equates history with nature, and that you do not accept this idea as a general truth.

An error in reasoning similar to making an unstated or invalid assumption occurs when a writer employs an **unsupported assertion** in defense of her central idea. An assertion is a declaration stated positively, but with no support or attempt at proof. When a writer makes an unsupported assertion, a reader has no way knowing whether the point is valid. No matter how well-reasoned the rest of the argument may be, an unsupported assertion casts doubt on its validity. Suppose, for instance, in the argument against NATO intervention in Bosnia, the writer asserts that, "No long-term peace has ever been sustained in the region," but does not support this statement with evidence. The reader then has reason to question whether the author is thoroughly dedicated to investigating his central claim. He must demonstrate the validity of his assertion and define important terms such as "long-term peace."

Writers can make similar errors when they **suppress** or provide **incomplete evidence**. Suppose, for example, a student is writing an essay about Hamlet's ambiguous status as a hero, and she constructs an argument that makes reference to events in three scenes, but omits any mention of a fourth scene that obviously contradicts her main idea. By suppressing her knowledge of a possible counter-argument, this author weakens her paper. When you write an academic essay, it is generally a good idea to assume that the reader is familiar with your topic. You should suppose, therefore, that a reader, especially a professor or preceptor, will notice your omission and interpret it as a significant flaw in your argument, or even as deception. At one time or another, most writers have the unfortunate experience of discovering a counter-argument when they are almost finished writing a paper. (That is one reason why it is a good idea to allow plenty of time for revision.) Instead of suppressing evidence and turning in a weak essay, you need to re-think your ideas and decide whether to change your thesis. You may find that you must rewrite your essay, but you may discover that, despite the counter-argument, you still believe your thesis is valid. In that case, you should acknowledge the counter-example and explain why it does not invalidate your central claim.

Another common logical error is **circular reasoning**. Writers can fall into the trap of circular reasoning when their belief in their central claim is both the starting point and the goal of their argument, such as in the statements "Public transportation is necessary because everyone needs it," or "The play is unsophisticated because it lacks a refined sense of character and plot development." Scientist and author Stephen Jay Gould astutely describes the weaknesses—and even dangers—of circular reasoning when he writes about the work of Paul Broca, a nineteenth-century scientist who let his prejudices govern his conclusions rather than permitting facts to lead him to ideas. Broca selectively gathered data in order to "prove" that white males were intellectually superior to women, blacks, and the poor. According to Gould, Broca and his fellow craniometrists "began with conclusions, peered through their facts, and came back in a circle to the same conclusions" (*Mismeasure of Man* 85).

When students write papers whose purpose is to defend an opinion or a particularly controversial thesis, they sometimes inappropriately attempt to persuade their readers by **appealing to emotions** instead of composing a careful, reasoned argument. Appeals to emotion often involve using loaded words or sarcasm to demean those who do not share the writer's views. It is a breach of conventional decorum, for example, if a writer who criticizes contemporary scholarship asserts that, "Modern universities are infested by the whining of idle intellectuals who thrust their decadence and discontent onto our captive youth." Obviously, the words "infested," "whining," "idle," "decadence," and "discontent" imply the writer's disdain for scholars and will immediately alienate many readers. This is not to say that emotion has no place in academic writing; good scholarly writers believe deeply, even passionately, in the ideas they set forth. They have learned, however, that carefully presented arguments convince far more readers than essays laden with fiery, judgmental language.

Student writers also need to be careful to avoid **false or faulty analogies**. Analogies are comparisons, and writers can use them to illustrate points, but not to replace arguments. For instance, someone writing about the effect of industrial pollution on the environment might state that, "An industrialist who pollutes the air with his factory has the same careless attitude toward others as the thug who breaks a store window." This comparison makes the criminality of polluters more vivid, and, as long as this is all the writer expects the statement to do, her analogy is successful. The analogy does not, however, demonstrate that polluting is a crime, nor does it prove that any particular industrialist is guilty; it cannot substitute for a solid argument or evidence.

Related Writing Center Handouts

Developing an Argument

Outlines

© 1999 Princeton Writing Program