CHAPTER SEVEN
Making Good Arguments
AN OVERVIEW

In this chapter we discuss the five elements of research arguments, showing how they respond to readers' predictable questions and how you can organize them into a genuinely coherent argument.

When you know enough to start planning your research report, you should have a tentative but clear understanding of your question and why it might matter to your readers, and a tentative but reasonably specific answer. You should have a list of reasons that support your claim and evidence to support those reasons, and some idea about the kinds of questions and objections your readers would be likely to raise, were they there in front of you. You won't be able to imagine all of their questions, nor will they expect you to. But you must anticipate at least the questions that generate the five elements of an argument and answer them before they're asked.

7.1 ARGUMENT AND CONVERSATION
In a research report, you make a claim, back it with reasons based on evidence, acknowledge and respond to other views, and sometimes explain your principles of reasoning. There's nothing arcane in any of this, because you use those elements in every conversation that inquires thoughtfully into an unsettled issue:

A: I hear you had a rocky time last semester. How do you think this term will go? [A poses a problem that interests her, put in the form of a question.]

B: Better, I hope. [B makes a claim that answers the question.]

A: Why is that? [A asks for a reason to believe B's claim.]

B: I'll finally be taking courses in my major. [B offers a reason.]

A: Why do you think that'll make a difference? [A doesn't see how B's reason is relevant to his claim that he will do better.]

B: When I take courses I'm interested in, I work harder. [B offers a general principle that relates his reason to his claim.]

A: What courses? [A asks for evidence to back up B's reason.]

B: History of architecture, introduction to design.

A: But what about that calculus course you have to take again? [A offers a point that contradicts B's reason.]

B: I know I had to drop it last time, but I found a really good tutor. [B acknowledges A's objection and responds to it.]

A: But won't you be taking five courses? [A raises another reservation.]

B: I know. It won't be easy. [B concedes a point he cannot refute.]

A: Will you pull up your GPA? [A asks about the limits of B's claim.]

B: I should. I'm shooting for at least a 3.0, as long as I don't have to get a part-time job. [B limits the scope of his claim and adds a condition.]

If you can imagine playing the roles of both A and B, you will find nothing strange about assembling a research report, because every written argument, research or not, is built out of the answers to those same five questions that you must ask on your readers' behalf:

1. What do you claim?

2. What reasons support that claim?

3. What evidence supports those reasons?

4. Do you acknowledge this alternative/complication/objection, and how do you respond?

5. What principle (warrant) justifies connecting your reasons to your claim?
7.2 BASING CLAIMS ON REASONS
At the core of every research report is your claim, the answer to your research question, along with two kinds of support for it. The first support is at least one reason, a sentence or two explaining why your readers should accept your claim. We can usually join a claim and a reason with because:

The emancipation of Russian peasants was an empty gesture because it did not improve the material quality of their daily lives.

TV violence can have harmful psychological effects on children because those exposed to large amounts of it tend to adopt the values of what they see.

At this point, we have to pause to clarify some terms. We must distinguish claims in general from main claims, and both from reasons:

- As we will use the term, a claim is any sentence that asserts something that may be true or false and so needs support: The world's temperature is rising.

- A main claim is the sentence (or more) that your whole report supports (some call this its thesis). If you wrote a report to prove that the world's temperature is rising, the sentence stating that would be its main claim.

- A reason is a sentence supporting a claim, main or not.

These terms can get confusing, because a reason is often supported by more reasons, which makes that first reason a claim in its own right. In fact, a sentence can be both a reason and a claim at the same time, if what it states (1) supports a claim and (2) is in turn supported by another reason: For example,

TV violence can have harmful psychological effects on children because those exposed to large amounts of it tend to adopt the values of what they see. Their constant exposure to violent images makes them unable to distinguish fantasy from reality.

Reasons can be based on reasons, but ultimately a reason has to be grounded on evidence.

7.3 BASING REASONS ON EVIDENCE
In casual conversation, we usually support a claim with just a reason:

We should leave because it looks like rain.

We don't ask, What evidence do you have that it looks like rain? (unless someone thinks he's a meteorologist: Those aren't rain clouds; they're just . . . ).

When you address serious issues in writing, though, you can't expect readers to accept all your reasons at face value. Careful readers behave more like that would-be weatherman, asking for the evidence, the data, the facts on which you base those reasons:

TV violence can have harmful psychological effects on children because those exposed to large amounts of it tend to adopt the values of what they see. Their constant exposure to violent images makes them unable to distinguish fantasy from reality.

Smith (1997) found that children ages 5–9 who watched more than three hours of violent television a day were 25 percent more likely to say that most of what they saw on television was "really happening."

At least in principle, evidence is something you and your readers can see, touch, taste, smell, or hear (or is accepted by everyone as just plain fact—the sun came up yesterday morning). It makes no sense to ask, Where could I go to see your reasons? It does make sense to ask, Where could I go to see your evidence?

For example, we can't see children adopting values, but we could see a child answer the question Do you think that what you see on TV is real? That somewhat oversimplifies the idea of "evi-
dence from out there," but it illustrates the principle. (We'll discuss this distinction between reasons and evidence in more detail in chapter 9.)

We now have the core of a research argument:

Claim because of Reason based on Evidence

7.4 ACKNOWLEDGING AND RESPONDING TO ALTERNATIVES
A responsible researcher supports a claim with reasons based on evidence. But thoughtful readers don't accept a claim just because you back it up with your reasons and your evidence. Unless they think exactly as you do (unlikely, given the fact that you are making an argument), they will probably think of evidence you haven't, interpret your evidence differently, or, from the same evidence, draw a different conclusion. They may reject the truth of your reasons, or accept them as true but deny that they are relevant to your claim and so cannot support it. They may think of alternative claims you did not consider.

In other words, your readers are likely to question any part of your argument. So you have to anticipate as many of their questions as you can, and then acknowledge and respond to the most important ones. For example, as readers consider the claim that children exposed to violent TV adopt its values, some might wonder whether children are drawn to TV violence because they already are inclined to violence of all kinds. If you think readers might ask that question, you would be wise to acknowledge and respond to it:

TV violence can have harmful psychological effects on children's claim 1 because those exposed to large amounts of it tend to adopt the values of what they see. reason 1 supporting claim 1/case 2 supported by reason 2. Their constant exposure to violent images makes them unable to distinguish fantasy from reality. reason 2 supporting reason 1/case 2. Smith (1997) found that children ages 5–9 who watched more than three hours of violent television a day were 25 percent more likely to say that most of what they saw on television was "really happening." evidence supporting reason 3. It is conceivable, of course, that children who tend to watch greater amounts of violent entertainment already have violent values. acknowledgment but Jones (1989) found that children with no predisposition to violence were just as attracted to violent entertainment as those with a history of violence, response.

The problem all researchers face is not just responding to readers' questions, alternatives, and objections, but imagining them. (In chapter 10 we'll review questions and objections you should expect.)

Since no research argument is complete without them, we add acknowledgment/responses to our diagram to show that they relate to all the other parts of an argument:

7.5 WARRANTING THE RELEVANCE OF REASONS
Even if readers agree that a reason is well supported by evidence, they may not see why it should lead them to accept your claim. They will ask why that reason, though factually true, is relevant to the claim. For example, suppose you offer this claim and its supporting reason (assume the evidence is there):

Children who are exposed to large amounts of violent entertainment tend to become adults who think violence is a legitimate component of daily life. claim because as children they tend to adopt the violent values in what they see. reason

Readers might question not the truth of that reason, but its relevance to the claim:
Why should children who adopt violent values necessarily become adults who tend to accept violence as a legitimate component of everyday life? I don't see how your claim follows from your reason.

To answer, you must offer a general principle that shows why you believe your particular reason is relevant to your particular claim so that you are justified in connecting them:

Whenever children adopt particular values, as adults they tend to accept as "normal" any behavior that reflects those values.

That statement—sometimes called a warrant—expresses a general principle of reasoning that covers more than violent TV. It covers all values acquired as a child and all adult behaviors.

Think of a warrant as a principle claiming that a general set of circumstances predictably allows us to draw a general consequence. You can then use that warrant to justify concluding that a specific instance of that general consequence (your claim) follows from a specific instance of that general circumstance (your reason). But for that warrant to apply, readers must first agree that the specific circumstance (or reason) qualifies as a sound instance of the general circumstance in the warrant and that the specific consequence (or claim) qualifies as a sound instance of the general consequence.

As you'll see, it is not easy to decide where to put warrants in the sequence of an argument, or even whether you need them at all. In fact, writers state warrants rarely, only when they think readers might question the relevance of a reason to their claim. For example, suppose you said:

Watch out going down the stairs, because the light is out.

You wouldn't need to add the warrant.

When it's dark, you have to be careful not to misstep. So watch out going down the stairs because the light is out.

That would seem condescending.

But if you think readers won't immediately see how a reason is relevant to your claim, then you have to justify the connection with a warrant, usually before you make it.

Violence on television and in video games can have harmful psychological effects. Few of us question that when children are repeatedly exposed to particular values in graphic and attractive form, they use those values to structure their understanding of their world. In the same way, children constantly exposed to violent entertainment tend to adopt the values of what they see.

(As you can see, no aspect of argument is as abstract and difficult to grasp as warrants.)

We add warrants to our diagram to show that they connect a claim and its supporting reason:

Those five elements constitute a "basic" argument. But many also include explanations of issues that readers might not understand. If, for example, you were making an argument about the relationship between inflation and various forms of money supply to readers not familiar with economic theory, you would have to explain the different ways that economists define "money."

7.6 BUILDING COMPLEX ARGUMENTS OUT OF SIMPLE ONES

The arguments in research reports are, of course, more complex than these simple ones. First, researchers almost always support
a claim with more than one reason, each of which is supported by its own evidence and may be justified by its own warrant. Second, since readers can be expected to see many alternatives to any complex argument, careful researchers typically respond to a number of them.

But most important, each element of a substantial argument is itself likely to be treated as a claim, supported by its own argument. Each reason will typically be treated as a claim supported by other reasons, often reasons that are themselves claims. A warrant may be supported by its own argument, with reasons and evidence, perhaps even with its own warrant and acknowledgments and responses. Each response might itself be a mini-argument, sometimes a full one. Only the evidence “stands alone,” but you may have to explain where you got it and why you think it’s sound.

7.7 ARGUMENTS AND YOUR ETHOS

This process of “thickening” an argument with other arguments is one way that writers gain the confidence of readers. Readers will judge you by how well you manage the elements of an argument so that you anticipate their concerns. In so doing, they are in effect judging the quality of your mind, even of your implied character—an image of yourself that you project through your argument, traditionally called your ethos. When you seem to be the sort of person who supports your claims thoroughly and who thoughtfully considers other points of view, you give readers reason to trust what you say and not to question what you don’t. By acknowledging their views and differences, you foster their desire to work with you in developing and testing new ideas.

In the long run, the ethos you project in individual arguments settles into your reputation, something every researcher must care deeply about, because your reputation will be an invisible sixth element in every argument you write. It answers the unspoken question Can I trust this person? If your readers don’t know you, you have to earn that trust in each argument. But if they do know you, you want the answer to their question to be Yes.

In the next four chapters, we look at each element of an argument, to show you both how to assemble them into a complete argument and how to think about them critically. In part IV we take up the matter of arranging those elements into a coherent report.