In this chapter, we explain how to assemble your argument; in the next, how to organize it. As you gain experience, you’ll learn to combine those two steps into one.

5.1 What a Research Argument Is and Is Not

The word argument has bad associations these days, partly because radio and TV stage so many abrasive ones. But the argument in a research report doesn’t try to intimidate an opponent into silence or submission. In fact, there’s rarely an “opponent” at all. Like any good argument, a research argument resembles an amiable conversation in which you and your imagined readers reason together to solve a problem whose solution they don’t yet fully accept. That doesn’t mean they oppose your claims (though they might). It means only that they won’t accept them until they see good reasons based on reliable evidence and until you respond to their reasonable questions and reservations.

In face-to-face conversation, making (not having) a cooperative argument is easy. You state your reasons and evidence not as a lecturer would to a silent audience but as you would engage talkative friends sitting around a table with you: you offer a claim and some reasons to believe it; they probe for details, raise objections, or offer their points of view; you respond, perhaps with questions of your own; and they ask more questions. At its best, it’s an amiable but thoughtful back-and-forth that develops and tests the best case that you and they can make together.

In writing, that kind of cooperation is harder, because you usually write alone (unless you’re in a writing group; see 2.4), and so you must not only answer your imagined readers’ questions but ask them on their behalf—as often and as sharply as real readers will. But your aim isn’t just to think up clever rhetorical strategies that will persuade readers to accept your claim regardless of how good it is. It is to test your claim and especially its support, so that when you submit your report to your readers, you offer them the best case you can make. In a good research report, readers hear traces of that imagined conversation.

Now as we’ve said, reasoning based on evidence isn’t the only way to reach a sound conclusion, sometimes not even the best way. We often make good decisions by relying on intuition, feelings, or spiritual insight. But when we try to explain why we believe our claims are sound and why others should too, we have no way to demonstrate how we reached them, because we can’t offer intuitions or feelings as evidence for readers to evaluate. We can only say we had them and ask readers to take our claim on faith, a request that thoughtful readers rarely grant.

When you make a research argument, however, you must lay out your reasons and evidence so that your readers can consider them; then
you must imagine both their questions and your answers. That sounds harder than it is.

5.2 Build Your Argument around Answers to Readers' Questions
It is easy to imagine the kind of conversation you must have with your readers, because you have them every day:

A: I hear you had a hard time last semester. How do you think this one will go? [A poses a problem in the form of a question.]
B: Better, I hope. [B answers the question.]
A: Why so? [A asks for a reason to believe B's answer.]
B: I'm taking courses in my major. [B offers a reason.]
A: Like what? [A asks for evidence to back up B's reason.]
B: History of Art, Intro to Design. [B offers evidence to back up his reason.]
A: Why will taking courses in your major make a difference? [A doesn't see the relevance of B's reason 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 that he will do better.]
A: What about that math course you have to take? [A objects to B's reason.]
B: I know I had to drop it last time I took it, but I found a good tutor. [B acknowledges A's objection and responds to it.]

If you can see yourself as A or B, you'll find nothing new in the argument of a research report, because you build one out of the answers to those same five questions.

- What is your claim?
- What reasons support it?
- What evidence supports those reasons?
- How do you respond to objections and alternative views?
- What principle makes your reasons relevant to your claim?

If you ask and answer those five questions, you can't be sure that your readers will accept your claim, but you make it more likely that they'll take it—and you—seriously.

5.3 Turn Your Working Hypothesis into a Claim
We described the early stages of research as finding a question and imagining a tentative answer. We called that answer your working hypothesis.
Now as we discuss building an argument to support that hypothesis, we change our terminology a last time. When you think you can write a report that backs up your hypothesis with good reasons and evidence, you’ll present that hypothesis as your argument’s claim. Your claim is the center of your argument, the point of your report (some teachers call it a thesis).

5.4 Assemble the Elements of Your Argument
At the core of your argument are three elements: your claim, your reasons for accepting it, and the evidence that supports those reasons. To that core you’ll add one and perhaps two more elements: one responds to questions, objections, and alternative points of view; the other answers those who do not understand how your reasons are relevant to your claim.

5.4.1 State and Evaluate Your Claim
Start a new first page of your storyboard (or outline). At the bottom, state your claim in a sentence or two. Be as specific as you can, because the words in this claim will help you plan and execute your draft. Avoid vague value words like important, interesting, significant, and the like. Compare the two following claims:

Masks play a significant role in many religious ceremonies.

In cultures from pre-Columbian America to Africa and Asia, masks allow religious celebrants to bring deities to life so that worshipers experience them directly.

Now judge the significance of your claim (So what? again). A significant claim doesn’t make a reader think I know that, but rather Really? How interesting. What makes you think so? (Review 2.1.4.) These next two claims are too trivial to justify reading, much less writing, a report to back them up:

This report discusses teaching popular legends such as the Battle of the Alamo to elementary school students. (So what if it does?)

Teaching our national history through popular legends such as the Battle of the Alamo is common in elementary education. (So what if it is?)

Of course, what your readers will count as interesting depends on what they know, and if you’re early in your research career, that’s something you can’t predict. If you’re writing one of your first reports, assume that your most important reader is you. It is enough if you alone think your answer is significant, if it makes you think, Well, I didn’t know that
when I started. If, however, you think your own claim is vague or trivial, you’re not ready to assemble an argument to support it, because you have no reason to make one.

5.4.2 Support Your Claim with Reasons and Evidence
It may seem obvious that you must back up a claim with reasons and evidence, but it's easy to confuse those two words because we often use them as if they meant the same thing:

What reasons do you base your claim on?

What evidence do you base your claim on?

But they mean different things:

- We think up logical reasons, but we collect hard evidence; we don't collect hard reasons and think up logical evidence. And we base reasons on evidence; we don't base evidence on reasons.

- A reason is abstract, and you don’t have to cite its source (if you thought of it). Evidence usually comes from outside your mind, so you must always cite its source, even if you found it through your own observation or experiment; then you must show what you did to find it.

- Reasons need the support of evidence; evidence should need no support beyond a reference to a reliable source.

The problem is that what you think is a true fact and therefore hard evidence, your readers might not. For example, suppose a researcher offers this claim and reason:

Early Alamo stories reflected values already in the American character. **claim**
The story almost instantly became a legend of American heroic sacrifice. **reason**

To support that reason, she offers this “hard” evidence:

Soon after the battle, many newspapers used the story to celebrate our heroic national character. **evidence**

If readers accept that statement as a fact, they may accept it as evidence. But skeptical readers, the kind you should expect (even hope for), are likely to ask How soon is “soon”? How many is “many”? Which papers? In news stories or editorials? What exactly did they say? How many papers didn't mention it?

To be sure, readers may accept a claim based only on a reason, if that reason seems self-evidently true or is from a trusted authority:

We are all created equal. **reason**

so no one has a natural right to govern us. **claim**
In fact, instructors in introductory courses often accept reasons supported only by what authoritative sources say: Wilson says X about religious masks, Yang says Y, Schmidt says Z. But in advanced work, readers expect more. They want evidence drawn not from a secondary source but from primary sources or your own observation.

Review your storyboard: Can you support each reason with what your readers will think is evidence of the right kind, quantity, and quality and is appropriate to their field? Might your readers think that what you offer as evidence needs more support? Or a better source? If so, you must find more data or acknowledge the limits of what you have.

Your claim, reasons, and evidence make up the core of your argument, but it needs at least one more element, maybe two.

5.4.3 Acknowledge and Respond to Readers’ Points of View

You may wish it weren’t so, but your best readers will be the most critical; they’ll read fairly but not accept everything you write at face value. They will think of questions, raise objections, and imagine alternatives. In conversation you can respond to questions as others ask them. But in writing you must not only answer those questions but ask them. If you don’t, you’ll seem not to know or, worse, not to care about your readers’ views.

Readers raise two kinds of questions; try to imagine and respond to both.

1. The first kind of question points to problems inside your argument, usually its evidence. Imagine a reader making any of these criticisms, then construct a miniargument in response:
   - Your evidence is from an unreliable or out-of-date source.
   - It is inaccurate.
   - It is insufficient.
   - It doesn’t fairly represent all the evidence available.
   - It is the wrong kind of evidence for our field.
   - It is irrelevant, because it does not count as evidence.

   Then imagine these kinds of reservations about your reasons and how you would answer them:
   - Your reasons are inconsistent or contradictory.
   - They are too weak or too few to support your claim.
   - They are irrelevant to your claim (we discuss this matter in 5.4.4).

2. The second kind of question raises problems from outside your argument. Those who see the world differently are likely to define terms
differently, reason differently, even offer evidence that you think is irrelevant. If you and your readers see the world differently, you must acknowledge and respond to these issues as well. Do not treat these differing points of view simply as objections. You will lose readers if you argue that your view is right and theirs is wrong. Instead, acknowledge the differences, then compare them so that readers can understand your argument on its own terms. They still might not agree, but you’ll show them that you understand and respect their views; they are then more likely to try to understand and respect yours.

If you’re a new researcher, you’ll find these questions hard to imagine because you might not know how your readers’ views differ from your own. Even so, try to think of some plausible questions and objections; it’s important to get into the habit of asking yourself What could cast doubt on my claim? But if you’re writing a thesis or dissertation, you must know the issues that others in your field are likely to raise. So however experienced you are, practice imagining and responding to significant objections and alternative arguments. Even if you just go through the motions, you’ll cultivate a habit of mind that your readers will respect and that may keep you from jumping to questionable conclusions.

Add those acknowledgments and responses to your storyboard where you think readers will raise them.

5.4.4 Establish the Relevance of Your Reasons
Even experienced researchers find this last element of argument hard to grasp, harder to use, and even harder to explain. It is called a warrant. You add a warrant to your argument when you think a reader might reject your claim not because a reason supporting it is factually wrong or is based on insufficient evidence, but because it’s irrelevant and so doesn’t count as a reason at all.

For example, imagine a researcher writes this claim.

The Alamo stories spread quickly because in 1836 this country wasn’t yet a confident player on the world stage.

Imagine that she suspects that her readers will likely object, It’s true that the Alamo stories spread quickly and that in 1836 this country wasn’t a confident player on the world stage. But I don’t see how not being confident is relevant to the story’s spreading quickly. The writer can’t respond simply by offering more evidence that this country was not a confident player on the world stage or that the stories in fact spread quickly: her reader already accepts both as true. Instead, she has to explain the relevance of