

say, readers tend to redefine terms they encounter to suit their own views. Cigarette manufacturers long argued that cigarettes are not addictive because some people can quit; their critics argued that cigarettes are addictive because more people can't.

When your argument hinges on the meaning of a term, define it to support your solution and offer a subordinate argument for your definition. Don't treat a dictionary definition as authoritative (never begin, "According to *Webster's*, 'addiction' means . . ."). Be aware of plausible alternative definitions that you may need to acknowledge. If you use a technical term that also has a common meaning (like *social class* or *theory*), acknowledge that common meaning and explain why you have adopted the technical one. Conversely, if you do not use a technical term as expert readers expect you to, acknowledge that and explain why you've opted for another meaning.

11 Warrants

Warrants are general principles that connect reasons to claims. This chapter explains when and how to use them. In general, you should state your warrants only when your readers will not understand your argument without them or when you expect your readers to challenge your reasoning. When you write for experts in a field, you can leave most of your warrants unstated, because your readers will usually know them already and take them for granted.

Consider this argument:

The Russian Federation faces a falling standard of living,*claim* because its birthrate is only 13.2 per 1,000 and life expectancy for men is only about 63 years.*reason*

Someone responds:

Well, you're right about Russia's birthrate and life expectancy, but I don't see how that's relevant to your claim that its standard of living will fall. What's the connection?

How would the person making the argument answer? More important, if that argument were in writing, how would she know that she had to answer that question *before it was asked*? Such questions address the fifth and most complex element of an argument: its warrants. A warrant is a principle that connects a reason to a claim. Warrants are important because readers may challenge not just the validity of a reason but its *relevance* as well.

In this chapter, we explain how warrants work, how to test them, and when and when not to state them. The basic principle is this: state your warrants only if your readers will not be able to understand your reasoning without them, or if you anticipate that your reasoning will be challenged.

But as we get started, a word of caution: everyone struggles to

understand warrants—including, from time to time, all of us. So if at the end of this chapter you still have questions, you're not alone.

11.1 WARRANTS IN EVERYDAY REASONING

Warrants are hard to grasp, but we understand them easily enough when people offer proverbs to justify their reasoning. That's because proverbs are warrants that we all know. For example, someone says:

I hear the FBI has been questioning the mayor's staff._{reason} He must be involved in something crooked._{claim}

Another person might object, *You're right. The FBI has been questioning his staff, but why does that mean he's crooked?* To explain the reasoning that led to that conclusion, the first person might offer the proverb, *Well, where there's smoke, there's fire.* That is, when we see a sign of something wrong, we can infer that something is in fact wrong.

The logic behind that reasoning is this. Most proverbs describe a situation made up of two distinct parts: a circumstance (*Where there's smoke, . . .*) and its consequence (*. . . there's fire*). If the connection between the circumstance and consequence is true or reasonable in general, it must also be true or reasonable in specific instances. In the case of smoke, fire, the FBI, and the mayor, that logic looks like this:

This General Circumstance	<i>predictably implies</i>	This General Consequence
When there are signs of crooked behavior. _{general circumstance}		crooked behavior probably exists. _{general consequence}
This is a good instance of this.		This is a good instance of this.
The FBI's been questioning the mayor's staff [sign of crooked behavior]. _{specific reason}	<i>Therefore</i>	The mayor must be involved in something crooked. _{specific claim}
This Specific Circumstance	<i>lets us infer</i>	This Specific Consequence

We use proverbs to justify many kinds of everyday reasoning: cause and effect (*Haste makes waste*); rules of behavior (*Look before you leap*); reliable inference (*One swallow does not a summer make*). But such proverbs are not our only examples of everyday warrants. We use warrants everywhere: in sports (*Defense wins championships*); in cooking (*Serve oysters only in months with an "r"*); in definitions (*A prime number can be divided only by itself and one*); even in research (*When readers find an error in one bit of evidence, they distrust the rest*).

11.2 WARRANTS IN ACADEMIC ARGUMENTS

In academic arguments, warrants work in exactly the same way. But in contrast to proverbs and other everyday warrants, academic warrants can be difficult to manage—especially for researchers new to a field—for three reasons.

First, academic warrants aren't commonplaces we all share. They are specific principles of reasoning that belong to particular communities of researchers, and they are countless. A fact of life

is that it just takes time for new researchers to grasp the warrants of their fields.

Second, experienced researchers rarely state their warrants explicitly when they write for specialized readers in their fields because they can safely assume that these readers already know them. (To state the obvious would seem not helpful but condescending.) This practice serves specialized readers well. But it poses a challenge to novices, who have to figure out what makes some reasons relevant to claims and others not, something those experts take for granted. That's why beginners in any field struggle with the *logic* of arguments written for specialists.

Here's an example of an academic warrant at work. Assuming the available evidence supported the reason, biologists would accept this argument:

A whale is more closely related to a hippopotamus than to a cow,*claim*
because it shares more DNA with a hippopotamus.*reason*

No biologist would ask, *What makes DNA relevant to measuring relationship?* So no biologist writing for her colleagues would offer a warrant answering that question. If, however, a non-biologist asked that question, the biologist would answer with a warrant other biologists take for granted:

When a species shares more DNA with one species than it does with another,*circumstance* we infer that it is more closely related to the first.*consequence*

Of course, the biologist would probably then have to explain that warrant as well. The point is this: whether or not a warrant gets stated explicitly depends not only on the argument but also on the audience. Experts state principles that are obvious to other experts only when they communicate with non-experts—or when challenged.

Third, academic warrants are often stated in ways that compress their circumstances and consequences. In most proverbs, these parts are distinct: *Where there's smoke,**circumstance* *there's fire.**consequence* But we can also compress those two parts into one short

statement: *Smoke means fire.* That's something we rarely do with proverbs but that experts often do with their specialized warrants:

Shared DNA is the measure of the relationship between species.

Phrased this way, our biologist's warrant doesn't explicitly distinguish a circumstance from its predictable consequence. But however compressed a warrant might be, we can always infer those two parts. For purposes of clarity, we'll state warrants in their most explicit two-part form: *When X, then Y.*

11.3 UNDERSTANDING THE LOGIC OF WARRANTS

Here again is that argument about Russia's economic future:

The Russian Federation faces a falling standard of living,*claim* because its birthrate is only 13.2 per 1,000 and life expectancy for men is only about 63 years.*reason*

If someone objects that the reason seems *irrelevant* to the claim, the person making the argument would have to justify the connection with a warrant consisting of two parts: (1) a general circumstance that lets us draw a conclusion about (2) a general consequence.

When a nation's labor force shrinks,*general circumstance* its economic future is grim.*general consequence*

Both the circumstance and consequence have to be more general than the specific reason and claim. Visually, that logic looks like this:

This General Circumstance	<i>implies</i>	This General Consequence
When a nation's labor force shrinks, <i>general circumstance</i>		its economic future is grim. <i>general consequence</i>
This is a good instance of this.		This is a good instance of this.
The Russian Federation's birthrate is only 13.2 per 1000 and men's life expectancy is only about 63. <i>specific reason</i>	<i>Therefore</i>	It faces a falling standard of living. <i>specific claim</i>
This Specific Circumstance	<i>lets us infer</i>	This Specific Consequence

That's the same pattern we saw in the argument about smoke, fire, and the crooked mayor.

11.4 TESTING WARRANTS

Readers challenge warrants in predictable ways. Consider this argument:

Contrary to popular belief, gun ownership in America was probably not widespread in the first half of the nineteenth century and before,*claim* because guns were rarely mentioned in wills.*reason* A review of 4,465 wills filed in seven states from 1750 to 1850 shows that only 11 percent mention a long gun or handgun.*report of evidence*

Such a claim is likely to be resisted by those who believe that those who founded the United States owned guns. So even if they accept that the reason is true—that guns were in fact rarely mentioned in wills—they may still object: *But I don't see how that counts as a reason to believe that few people owned a gun. It's irrelevant.*

If a writer anticipated that readers would raise that objection,

she would offer a warrant to link the specific reason to the specific claim before she stated them:

In the eighteenth and early nineteenth centuries, valuable objects were listed in wills, **so when someone failed to mention a valuable object in his will, he did not own one.***warrant* Since guns were valuable but were rarely mentioned in wills before 1850,*reason* gun ownership must not have been widespread.*claim*

But if she wants her readers to accept that warrant, she must ask herself five questions before her readers do:

1. Is that warrant reasonable?
2. Is it sufficiently limited?
3. Is it superior to any competing warrants?
4. Is it appropriate to this field?
5. Is it able to cover the reason and claim?

11.4.1 Is Your Warrant Reasonable?

A warrant seems reasonable when readers can accept that its consequence follows from its circumstance. If readers don't accept that, you must first convince them to accept your warrant by treating it as a claim in its own argument, supported by its own reasons and evidence:

In the eighteenth and early nineteenth centuries, valuable objects were listed in wills, so when a will failed to mention such a valuable object, the person did not own one.*warrant/claim* Watson (1989) confirmed that to be the case.*reason* In a study of 1,356 wills filed in Cumberland County between 1750 and 1825, he found . . .*evidence*

11.4.2 Is Your Warrant Sufficiently Limited?

Most warrants are reasonable only within certain limits. For example, that warrant about gun ownership seems to allow no exceptions:

In the eighteenth and early nineteenth centuries, valuable objects were listed in wills.

That version is too broad; it might seem more plausible if it were qualified:

In the eighteenth and early nineteenth centuries, **most** household objects **considered valuable by their owners** were **usually** listed in wills.

But once you start qualifying a warrant with words like *most* and *usually*, you then have to show that its exceptions do not exclude your reason and claim: *What frequency are most and usually? Were guns always considered valuable?*

11.4.3 Is Your Warrant Superior to Any Competing Warrants?

You may think your warrant is reasonable and sufficiently limited, but others might contradict it. Here are two more competing warrants, both arguably reasonable:

When parents believe a medical procedure may harm their children, they have a right to refuse it. Taylor and Chris believe the measles vaccine causes autism, so they can refuse to have it administered to their daughter.

When medical decisions concern matters of public health, the state has a right to regulate them. When most children in a population are vaccinated against measles, everyone is safer, so the state can compel Taylor and Chris to allow their daughter to be vaccinated.

Which warrant should prevail? That's a matter for yet another argument.

You can sometimes reconcile competing warrants by limiting them:

When parents believe a medical procedure may harm their children, they have a right to refuse it, so long as that does not jeopardize the health of others.

When medical decisions concern matters of public health, the state has a right to regulate them, so long as the state encroaches as little as possible on parents' prerogative to make medical decisions for their children.

Finding the right balance is not easy. Again, it's a matter for argument.

11.4.4 Is Your Warrant Appropriate to This Field?

Your warrant may be reasonable, sufficiently limited, and superior to others, but your readers might still reject it if it is not appropriate to their particular research community. Law students get a painful lesson in the law when they find that many warrants they take for granted have no place in legal arguments. For example, like most of us, they start law school holding this commonsense belief:

When a person is wronged, the law should correct it.

But law students have to learn that legal warrants may trump such commonsense ideas. For example:

When one ignores legal obligations, even inadvertently, one must suffer the consequences.

Therefore:

When elderly home owners forget to pay real estate taxes, others can buy their houses for back taxes and evict them.

Against their most decent instincts, law students must learn to argue that justice is not the outcome they believe to be ethical but the one that the law and the courts support.

11.4.5 Is Your Warrant Able to Cover Your Reason and Claim?

Finally, you must be sure that your reason and claim are good instances of your warrant's general circumstance and general consequence. For example:

AHMED: You should buy a gun, *claim* because you live alone. *reason*

BETH: Why does living alone mean I should buy a gun?

AHMED: When you aren't safe, *general circumstance* you should protect yourself. *general consequence*

BETH: But living alone doesn't make me unsafe.

Beth objects not that Ahmed's reason is false but that it is not a valid *instance* of his warrant's general *circumstance*. So to her, Ahmed's reason isn't covered by his warrant and is therefore not *relevant*. Beth might also have responded that owning a gun would make her home less safe (rather than more). In that case, she would be objecting that Ahmed's claim isn't a good instance of the warrant's *consequence*, that is, that it doesn't *follow* from his reason: even if she was unsafe, a gun would not allow her to protect herself.

If all this seems complicated, know that you are in good company: the relationship of warrants to claims and reasons has vexed logicians since at least the time of Aristotle. But just knowing the ways that readers typically challenge warrants will help you write better arguments, which is why we've listed those five questions above.

11.5 KNOWING WHEN TO STATE A WARRANT

An argument in any field depends on countless principles of reasoning, but most of these principles are so deeply embedded in our tacit knowledge that we rarely state them. There are three occasions, however, when you may have to:

1. *Your readers are outside your field.* When you write as an expert for non-expert readers, you may need to explain how experts draw conclusions and support their claims, especially if these ways of reasoning are unusual.
2. *You use a principle of reasoning that is new or controversial in your field.* When you rely on unconventional principles of reasoning, you can anticipate that at least some of your readers will be skeptical. So defuse that skepticism by stating your warrant and then justifying it. Refer to others in your field who also use it. If you can't do that, make an argument of your own defending your reasoning.
3. *You make a claim that readers will resist because they just don't want it to be true.* In this case, a good strategy is to start with a warrant that you hope readers will accept *before* you lay out a reason and claim that you fear they will resist. They may not like the

What You Don't Say Says Who You Are

You treat readers courteously when you state and support warrants to explain principles of reasoning that they may not recognize. But you make an equally strong (though less friendly) gesture when you keep silent about warrants you should state for readers not in the know. One way or the other, warrants significantly affect how readers perceive the ethos you project through your arguments.

claim any better, but you will at least encourage them to see that it is not unreasonable. For example:

We should accept that human actions are largely responsible for climate change,*claim* because virtually all climate scientists hold that view.*reason*

Some readers may resist that claim because it threatens other strong convictions they hold. A writer confronting such readers might encourage them at least to consider that claim by giving them a warrant that they should be able to accept:

When an overwhelming majority of competent experts arrive at the same conclusion, we can probably trust it.*warrant* We should therefore accept that human actions are largely responsible for climate change,*claim* because virtually all climate scientists hold that view.*reason*

When readers accept that a warrant is reasonable, that a reason is true, and that the reason and claim are good instances of the warrant's general circumstance and consequence, then they are logically obliged at least to consider the claim. If they don't, no rational argument is likely to change their minds.

11.6 USING WARRANTS TO TEST YOUR ARGUMENT

All arguments rely on warrants, even if they aren't stated explicitly. You can test the soundness of an argument by trying to imagine a warrant for it. Here is a flawed argument about how violent video games affect children:

Children aged 12–16 today are significantly more violent than their counterparts from a generation ago.*reason* Brown (2013) has shown that...*evidence* Given these facts, it seems highly likely that violent video games are exerting a destructive influence on today's youth.*claim*

To understand what's wrong here, we can imagine a warrant that would allow us to draw a conclusion about the effect of video games on children:

When children are constantly exposed to images of sadistic violence, they are influenced for the worse.*warrant* Children aged 12–16 today are significantly more violent than their counterparts from a generation ago.*reason* Brown (2013) has shown that...*evidence* Given these facts, it seems highly likely that violent video games are exerting a destructive influence on today's youth.*claim*

Now we can see the problem: the specific circumstance—rising violence among children aged 12–16—is not a valid instance of the warrant's general circumstance: children being exposed to images of sadistic violence.

This General Circumstance	<i>implies</i>	This General Consequence
When children are constantly exposed to images of sadistic violence. <i>general circumstance</i>		they are influenced for the worse. <i>general consequence</i>
Is this a good instance of this?		Is this a good instance of this?
Children aged 12–16 today are significantly more violent than their counterparts from a generation ago. <i>specific reason</i>	<i>Therefore</i>	Violent video games are exerting a destructive influence on today's youth. <i>specific claim</i>
This Specific Circumstance	<i>lets us infer</i>	This Specific Consequence

So even if that statement about rising violence among children is true, it can't justify the claim. To fix that argument, we have to revise the reason to be a good instance of the warrant's general circumstance, which may also mean producing new evidence to support that new reason:

When children are constantly exposed to images of sadistic violence, they are influenced for the worse.*warrant* Over the past decade, video games have become a major source of children's exposure to violent imagery.*new reason* Jones (2014) shows that...*new evidence* Given these facts, it seems highly likely that violent video games are exerting a destructive influence on today's youth, making them significantly more violent than their counterparts from a generation ago.*claim*

Now the reason and claim seem closer to what the warrant covers or includes:

This General Circumstance	<i>implies</i>	This General Consequence
When children are constantly exposed to images of sadistic violence,		they are influenced for the worse.
This is a good instance of this.		This is a good instance of this.
Over the past decade, video games have become a major source of children's exposure to violent imagery. <i>reason</i>	<i>Therefore</i>	Video games are exerting a destructive influence on today's youth, making them significantly more violent than their counterparts from a generation ago. <i>claim</i>
This Specific Circumstance	<i>lets us infer</i>	This Specific Consequence

But a reader keen to derail the argument might still object:

Wait. All those images aren't "sadistic." Much of it is cartoon violence. And children aren't *constantly* exposed to it.

In response, the writer would have to deal with those issues.

Now you understand why important issues are so endlessly contested, why, even when you feel your case is airtight, your readers can still say, *Wait a minute. What about...?* Readers can challenge reasons in two ways. They can object that your reasons are not grounded on sound evidence or that they seem irrelevant to a claim. To answer the first sort of objection, you must find better evidence. To answer the second sort, you must provide a warrant that makes your reasons relevant. If you can't, you must revise your argument.

11.7 CHALLENGING OTHERS' WARRANTS

The most difficult arguments to make are those that challenge not just the claims and evidence that a research community accepts but also the warrants it embraces. No argumentative task is harder, because when you challenge a community's warrants, you ask readers to change not just *what* they believe but *how* they reason. To challenge a warrant successfully, you must first imagine how those who accept it would defend it. Warrants can be based on different *kinds* of supporting arguments, so you have to challenge them in different ways.

11.7.1 Challenging Warrants Based on Experience

We base some warrants on our experience or on reports by others.

When people habitually lie, we don't trust them.

When insecticides leach into the ecosystem, eggshells of wild birds become so weak that fewer chicks hatch and the bird population falls.

To challenge those warrants, you have two choices, both difficult: (1) challenge the reliability of the experience, which is rarely easy; (2) find counterexamples that cannot be dismissed as special cases.

11.7.2 Challenging Warrants Based on Authority

We believe some people because of their expertise, position, or charisma.

When authority X says Y, Y must be so.

The easiest—and friendliest—way to challenge an authority is to argue that, on the matter in question, the authority does not have all the evidence or reaches beyond its expertise. The most aggressive way is to argue that the source is in fact not an authority at all.

11.7.3 Challenging Warrants Based on Systems of Knowledge

These warrants are backed by systems of definitions, principles, or theories:

FROM MATHEMATICS: When we add two odd numbers, we get an even one.

FROM BIOLOGY: When an organism reproduces sexually, its individual offspring differ.

FROM LAW: When we drive without a license, we commit a misdemeanor.

When you challenge these warrants, "facts" are largely irrelevant. You must either challenge the system, always difficult, or show that the case does not fall under the warrant.

11.7.4 Challenging General Cultural Warrants

These warrants are backed not by individual experience but by the common experience of an entire culture. To members of that culture, they seem unassailable "common sense."

Out of sight, out of mind.

An insult justifies retaliation.

Handling toads causes warts.

Warrants like these may change over time, but slowly. You can challenge them, but readers will resist, because you seem to be challenging their heritage.

11.7.5 Challenging Methodological Warrants

Think of these as "meta-warrants," general patterns of thought with no content until applied to specific cases. We use them to explain abstract reasoning (they are the source of many proverbs):

GENERALIZATION: When every known case of X has quality Y, then all Xs probably have quality Y. (*Seen one, seen them all.*)

ANALOGY: When X is like Y in most respects, then X will be like Y in other respects. (*Like father, like son.*)

SIGN: When Y regularly occurs before, during, or after X, Y is a sign of X. (*Cold hands, warm heart.*)

Philosophers have questioned these warrants, but in matters of practical argumentation, we challenge only their application or point out limiting conditions: *Yes, we can analogize X to Y, but not if...*

11.7.6 Challenging Warrants Based on Articles of Faith

Some warrants are beyond challenge: Jefferson invoked one when he wrote, *We hold these truths to be self-evident, that all men are created equal...* Others include

When a claim is experienced as revealed truth, it must be true.

When a claim is based on divine teaching, it must be true.

Such warrants are backed not by evidence but by the certainty of those who espouse them. It is pointless to challenge them, because they are statements of faith, impervious to argument or evidence. If you encounter them as you gather your data, ignore them or treat them not as a subject for research but as an inquiry into the meaning of life.

QUICK TIP Reasons, Evidence, and Warrants

You can justify your reasons in two ways: by offering evidence to support them or by deriving them from a warrant. Each of these ways leads to a different kind of argument. Researchers generally trust the first kind more than the second, so base your reasons on solid evidence when you can. Compare these two arguments:

We should do what we can to discourage teenagers from texting and driving,*claim* because distracted driving is a leading cause of teenage deaths.*reason* According to the CDC, motor vehicle accidents are responsible for over a third of all fatalities among people aged 12–19, and texting while driving exponentially increases the likelihood that any driver will be involved in one. *Moreover, ...evidence*

We should do what we can to discourage teenagers from texting and driving,*claim* because when they do, their risk of having an accident increases.*reason 1* Driving is difficult and texting a distraction,*reason 2 supporting reason 1* and we know that when people are distracted while performing complex tasks, their performance suffers.*warrant linking reason 2 and reason 1*

If you are like most contemporary readers, you probably preferred the first of these arguments. That's because its warrant is not controversial (and therefore goes without saying) and its claim is supported by a reason based on solid evidence. That second argument is plausible because reason 1 and reason 2 are good instances of that warrant's general consequence and condition. But most readers still want evidence.

In particular, you can't support a claim of fact (see 8.1) with a warrant and reason alone:

Texting and driving is a leading cause of teenage deaths,*claim of fact* because texting while driving is very distracting.*reason* When drivers are distracted, they increase their risk of having serious even fatal accidents.*warrant*

Are you thinking, *I could believe that, but I'd like some proof?* That commonsense response is telling. We can't just *reason* our way to

the conclusion that texting while driving is a *leading* cause of teen fatalities, or even that it causes teen fatalities *at all*. Except in a few fields—some branches of mathematics, philosophy, theology—the way to demonstrate a claim of fact is to show with evidence that what you are claiming is, *in fact*, the case.

The lesson is this: whenever you can, rely not on elaborate lines of reasoning based on warrants but on hard evidence.

PART IV

Writing Your Argument