In Chapter 3 you learned that the core of an argument is a claim supported by reasons and that these reasons can often be stated as because clauses attached to a claim. In the present chapter we examine the logical structure of arguments in more depth.

An Overview of Logos: What Do We Mean by the “Logical Structure” of an Argument?

As you will recall from our discussion of the rhetorical triangle, logos refers to the strength of an argument's support and its internal consistency. Logos is the argument’s logical structure. But what do we mean by “logical structure”?

Formal Logic versus Real-World Logic

First of all, what we don't mean by logical structure is the kind of precise certainty you get in a philosophy class in formal logic. Logic classes deal with symbolic assertions that are universal and unchanging, such as "If all ps are qs and if r is a p, then r is a q." This statement is logically certain so long as p, q, and r are pure abstractions. But in the real world, p, q, and r turn into actual things, and the relationships among them suddenly become fuzzy. For example, p might be a class of actions called "Sexual Harassment," while q could be the class called "Actions That Justify Dismissal from a Job." If r is the class "Telling Off-Color Stories," then the logic of our p–q–r statement suggests that telling off-color stories (r) is an instance of sexual harassment (p), which in turn is an action justifying dismissal from one's job (q).

Now, most of us would agree that sexual harassment is a serious offense that might well justify dismissal from a job. In turn, we might agree that telling off-color stories, if the jokes are sufficiently raunchy and are inflicted on an unwilling audience, constitutes sexual harassment. But few of us would want to say categorically that all people who tell off-color stories are harassing their listeners and ought to be fired. Most of us would want to know the particulars of the case before making a final judgment.

In the real world, then, it is difficult to say that rs are always ps or that every instance of a p results in q. That is why we discourage students from
using the word *prove* in claims they write for arguments (as in “This paper will prove that euthanasia is wrong”). Real-world arguments seldom *prove* anything. They can only make a good case for something, a case that is more or less strong, more or less probable. Often the best you can hope for is to strengthen the resolve of those who agree with you or weaken the resistance of those who oppose you.

**The Role of Assumptions**

A key difference, then, between formal logic and real-world argument is that real-world arguments are not grounded in abstract, universal statements. Rather, as we shall see, they must be grounded in beliefs, assumptions, or values granted by the audience. A second important difference is that in real-world arguments these beliefs, assumptions, or values are often unstated. So long as writer and audience share the same assumptions, it’s fine to leave them unstated. But if these underlying assumptions aren’t shared, the writer has a problem.

To illustrate the nature of this problem, consider one of the arguments we introduced in the last chapter.

*Women should be allowed to join combat units because the image of women in combat would help eliminate gender stereotypes.*

On the face of it, this is a plausible argument. But the argument is persuasive only if the audience agrees with the writer’s assumption that it is a good thing to eliminate gender stereotyping. The writer assumes that gender stereotyping (for example, seeing men as the fighters who are protecting the women and children back home) is harmful and that society would be better off without such fixed gender roles. But what if you believed that some gender roles are biologically based, divinely intended, or otherwise culturally essential and that society should strive to maintain these gender roles rather than dismiss them as “stereotypes”? If such were the case, you might believe as a consequence that our culture should socialize women to be nurturers, not fighters, and that some essential trait of “womanhood” would be at risk if women served in combat. If these were your beliefs, the argument wouldn’t work for you because you would reject its underlying assumption. To persuade you with this line of reasoning, the writer would have to show not only how women in combat would help eliminate gender stereotypes but also why these stereotypes are harmful and why society would be better off without them.

**The Core of an Argument: The Enthymeme**

The previous core argument ("Women should be allowed to join combat units because the image of women in combat would help eliminate gender stereotypes") is an incomplete logical structure called an *enthymeme*. Its persuasiveness depends on an underlying assumption or belief that the audience must accept. To complete the enthymeme and make it effective, the audience must willingly supply a missing premise—in this case, that gender stereotypes are harmful and should be eliminated.
The Greek philosopher Aristotle showed how successful enthymemes root the speaker's argument in assumptions, beliefs, or values held by the audience. The word \textit{enthymeme} comes from the Greek \textit{en} (meaning "in") and \textit{thumos} (meaning "mind"). Listeners or readers must have "in mind" an assumption, belief, or value that lets them willingly supply the missing premise. If the audience is unwilling to supply the missing premise, then the argument fails. Our point is that successful arguments depend both on what the arguer says and on what the audience already has "in mind.

To clarify the concept of "enthymeme," let's go over this same territory again more slowly, examining what we mean by "incomplete logical structure." The sentence "Women should be allowed to join combat units because the image of women in combat would help eliminate gender stereotypes" is an enthymeme. It combines a claim (women should be allowed to join combat units) with a reason expressed as a \textit{because} clause (because the image of women in combat would help eliminate gender stereotypes). To render this enthymeme logically complete, the audience must willingly supply a missing assumption—that gender stereotypes are harmful and should be eliminated. If your audience accepts this assumption, then you have a starting place on which to build an effective argument. If your audience doesn't accept this assumption, then you must supply another argument to support it, and so on until you find common ground with your audience.

To sum up:

1. Claims are supported with reasons. You can usually state a reason as a \textit{because} clause attached to a claim (see Chapter 3).
2. A \textit{because} clause attached to a claim is an incomplete logical structure called an enthymeme. To create a complete logical structure from an enthymeme, the underlying assumption (or assumptions) must be articulated.
3. To serve as an effective starting point for the argument, this underlying assumption should be a belief, value, or principle that the audience grants.

Let's illustrate this structure by putting the previous example into schematic form.

\begin{center}
\begin{tikzpicture}
  \node (claim) at (0,0) {\textbf{CLAIM} Women should be allowed to join combat units};
  \node (reason) at (0,-1) {\textbf{REASON} because the image of women in combat would help eliminate gender stereotypes.};
  \node (audience) at (0,-2) {\textit{Audience must supply this assumption}};\node (assumption) at (0,-3) {\textbf{UNDERLYING ASSUMPTION} Gender stereotypes are harmful and should be eliminated.};
  \draw[->] (claim) -- (reason);
  \draw[->] (audience) -- (assumption);
\end{tikzpicture}
\end{center}
evidence from your own life when searching for data. A more detailed discussion of evidence in arguments occurs in Chapter 5.

FOR CLASS DISCUSSION  Reasons, Warrants, and Conditions of Rebuttal

1. Working individually or in small groups, consider ways you could use evidence to support the stated reason in each of these following partial arguments.
   a. Another reason to oppose a state sales tax is that it is so annoying.
   b. Rap music has a bad influence on teenagers because it promotes disrespect for women.
   c. Professor X is an outstanding teacher because he (she) generously spends so much time outside of class counseling students with personal problems.

2. Now create arguments to support the warrants in each of the partial arguments in exercise 1. The warrants for each of the arguments are stated below.
   a. Support this warrant: We should oppose taxes that are annoying.
   b. Support this warrant: It is bad to promote disrespect for women.
   c. Support this warrant: Time spent counseling students with personal problems is an important criterion for identifying outstanding teachers.

3. Using Toulmin’s conditions of rebuttal, work out a strategy for refuting either the stated reasons or the warrants or both in each of the preceding arguments.

The Power of Audience-Based Reasons

As we have seen, both Aristotle’s concept of the enthymeme and Toulmin’s concept of the warrant focus on the arguer’s need to create what we will now call “audience-based reasons.” Whenever you ask whether a given piece of writing is persuasive, the immediate rejoinder should always be, “Persuasive to whom?” What seems like a good reason to you may not be a good reason to others. Finding audience-based reasons means finding arguments whose warrants the audience will accept—that is, arguments effectively rooted in your audience’s beliefs and values.

Difference between Writer-Based and Audience-Based Reasons

To illustrate the difference between writer-based and audience-based reasons, consider the following hypothetical case. Suppose you believed that the government should build a dam on the nearby Rapid River—a project bitterly opposed by several environmental groups. Which of the following two arguments might you use to address environmentalists?

1. The government should build a dam on the Rapid River because the only alternative power sources are coal-fired or nuclear plants, both of which pose greater risk to the environment than a hydroelectric dam.
2. The government should build a hydroelectric dam on the Rapid River because this area needs cheap power to attract heavy industry.
Clearly, the warrant of argument 1 ("Choose the source of power that poses least risk to the environment") is rooted in the values and beliefs of environmentalists, whereas the warrant of argument 2 ("Growth of industry is good") is likely to make them wince. To environmentalists, new industry means more congestion, more smokestacks, and more pollution. However, argument 2 may appeal to out-of-work laborers or to the business community, to whom new industry means more jobs and a booming economy.

From the perspective of logic alone, arguments 1 and 2 are both sound. They are internally consistent and proceed from reasonable premises. But they will affect different audiences very differently. Neither argument proves that the government should build the dam; both are open to objection. Passionate environmentalists, for example, might counter argument 1 by asking why the government needs to build any power plant at all. They could argue that energy conservation would obviate the need for a new power plant. Or they might argue that building a dam hurts the environment in ways unforeseen by dam supporters. Our point, then, isn't that argument 1 will persuade environmentalists. Rather, our point is that argument 1 will be more persuasive than argument 2 because it is rooted in beliefs and values that the intended audience shares.

Let's consider a second example by returning to Chapter 1 and student Gordon Adams's petition to waive his math requirement. Gordon's central argument, as you will recall, was that as a lawyer he would have no need for algebra. In Toulmin's terms, Gordon's argument looks like this:

<table>
<thead>
<tr>
<th>ENTHYMEME</th>
<th>Stated explicitly in Gordon's argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAIM:</td>
<td>I should be exempted from the algebra requirement</td>
</tr>
<tr>
<td>REASON:</td>
<td>because in my chosen field of law I will have no need for algebra</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GROUNDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Testimony from lawyers and others that lawyers never use algebra</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WARRANT</th>
<th>Fully developed in Gordon's argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education requirements should be based on career utility (that is, if a course is not needed for a particular student's career, it shouldn't be required).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BACKING</th>
<th>Left unstated in Gordon's argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Arguments that career utility should be the chief criterion for requiring general education courses</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WARRANT</th>
<th>Left unstated in Gordon's argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education requirements should be based on career utility (that is, if a course is not needed for a particular student's career, it shouldn't be required).</td>
<td></td>
</tr>
</tbody>
</table>

In our discussions of this case with students and faculty, students generally vote to support Gordon's request, whereas faculty generally vote against it. And in fact, the University Standards Committee rejected Gordon's petition, thus delaying his entry into law school.

Why do faculty and students differ on this issue? Mainly they differ because faculty reject Gordon's warrant that general education requirements should serve students' individual career interests. Most faculty believe that general education courses,
including math, provide a base of common learning that links us to the past and teaches us modes of understanding useful throughout life.

Gordon's argument thus challenges one of college professors' most cherished beliefs—that the liberal arts and sciences are innately valuable. Further, it threatens his immediate audience, the committee, with a possible flood of student requests to waive other general education requirements on the grounds of their irrelevance to a particular career choice.

How might Gordon have created a more persuasive argument? In our view, Gordon might have prevailed had he accepted the faculty's belief in the value of the math requirement and argued that he had fulfilled the "spirit" of that requirement through alternative means. He could have based his argument on an enthymeme like this:

I should be exempted from the algebra requirement because my experience as a contractor and inventor has already provided me with equivalent mathematical knowledge.

Following this audience-based approach, he would drop all references to algebra's uselessness for lawyers and expand his discussion of the mathematical savvy he acquired on the job. This argument would honor faculty values and reduce the faculty's fear of setting a bad precedent. Few students are likely to have Gordon's background, and those who do could apply for a similar exemption without threatening the system. Again, this argument might not have won, but it would have gotten a more sympathetic hearing.

FOR CLASS DISCUSSION  Audience-Based Reasons

Working in groups, decide which of the two reasons offered in each instance would be more persuasive to the specified audience. Be prepared to explain your reasoning to the class. Write out the implied warrant for each because clause and decide whether the specific audience would likely grant it.

1. Audience: people who advocate a pass/fail grading system on the grounds that the present grading system is too competitive
   a. We should keep the present grading system because it prepares people for the dog-eat-dog pressures of the business world.
   b. We should keep the present grading system because it tells students that certain standards of excellence must be met if individuals are to reach their full potential.

2. Audience: young people ages fifteen to twenty-five
   a. You should become a vegetarian because an all-vegetable diet will help you lower your cholesterol.
   b. You should become a vegetarian because doing so will help eliminate the suffering of animals raised in factory farms.

3. Audience: conservative proponents of "family values"
   a. Same-sex marriages should be legalized because doing so will promote public acceptance of homosexuality.
   b. Same-sex marriages should be legalized because doing so will make it easier for gay people to establish and sustain long-term, stable relationships.
Conclusion

Chapters 3 and 4 have provided an anatomy of argument. They have shown that the core of an argument is a claim with reasons that usually can be summarized in one or more because clauses attached to the claim. Often, it is as important to articulate and support the underlying assumptions in your argument (warrants) as it is to support the stated reasons because a successful argument should be rooted in your audience's beliefs and values. In order to plan an audience-based argument strategy, arguers can use the Toulmin schema, which helps writers discover grounds, warrants, and backing for their arguments and to test them through conditions of rebuttal. Finally, we showed how the use of audience-based reasons helps you keep your audience in mind from the start whenever you design a plan for an argument.

WRITING ASSIGNMENT Plan of an Argument’s Details

This assignment asks you to return to the working thesis statement that you created for the brief writing assignment in Chapter 3. From that thesis statement extract one of your enthymemes (your claim with one of your because clauses). Write out the warrant for your enthymeme. Then use the Toulmin schema to brainstorm the details you might use (grounds, backing, conditions of rebuttal) to convert your enthymeme into a fleshed-out argument. Use as your model Chandale’s planning notes on pages 81–82.

Like the brief assignment for Chapter 3, this is a process-oriented brainstorming task aimed at helping you generate ideas for one part of your classical argument. You may end up changing your ideas substantially as you compose the actual argument. What follows is Carmen’s submission for this assignment.

Carmen’s Plan for Part of an Argument

Enthymeme: First-person-shooter (FPS) video games are great activities for girls because playing these games gives girls new insights into male subculture.

Grounds: I’ve got to show the insights I learned into male subculture.

- The guys who play these video games are intensely competitive.
- They can play for hours without stopping—intense concentration.
- They don’t multitask—no small talk during the games; total focus on playing.
- They take delight in winning at all costs—they boast with every kill; they call each other losers.
- They often seem homophobic or misogynist.
- They put each other down by calling opponents “faggot” and “wussy,” or other similar names that are totally obscene.
- They associate victory with being macho.

Warrant: It is beneficial for a girl to get these insights into male subculture.

Backing: How can I show these benefits?