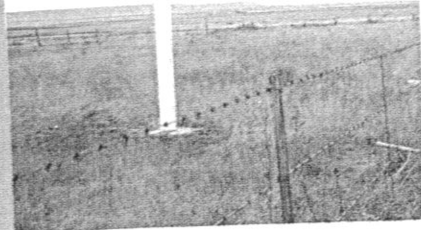


Myopia/Terra/Corbis

3 Support

Sometimes called grounds or proofs, support comes in various forms: authorities, testimony, facts, statistics, allusions, anecdotes, illustrations, scenarios, appeals to logic, appeals to character, appeals to emotion, appeals to need, and appeals to value. Scholars have categorized and recategorized these support strategies for centuries. One long-standing perspective divides them into three main groups:

Evidence: authorities, testimony, facts, statistics

Examples: allusions, anecdotes, illustrations, scenarios

Appeals: to logic, character, emotion, need, value

Certain types of claims may rely more heavily on a particular support category. For instance, a claim of fact may rely more on evidence than appeals. A claim of value may rely on appeals more than evidence. However, most arguments rely on support strategies from all three categories. In everyday life and even in specialized situations, we use a range of appeals, types of evidence, and examples.

EVIDENCE

Evidence is a type of support that already exists, unlike appeals, which are created by a writer. Evidence can be used at any point in an argument: it can support the main claim or a supporting claim. But merely mentioning evidence or providing a fact is not enough. Arguers must explain the relevance of the evidence.

In his essay "Somewhere in the Past" (from Chapter 11), Cameron Johnson refers to facts and authorities and then, at the end of the paragraph, connects the evidence to his main point—that decreased school funding decreases community involvement:

> All across America, local school systems have been facing consistent budget cuts, and as in Clarksville, the cuts impact the delicate layer of social life around the schools: summer school, sports, music, and art programs have consistently been lopped off the agendas. Some districts, such as one in Orange County, Florida, are considering moving back starting times to 10:30 or 11:00 a.m. (Stover). It is easy to see that budget cuts have made schools shrink inward—balling themselves into smaller space and smaller bits of time. And even when communities pass local levies, they are often not enough to turn the tide. Increased taxes have not always kept up with the rate of inflation. According to the League of Education Voters, in the state of Washington, for example, from 1993 to 1999 state funding per student increased $528. Yet because of inflation, there was actually a decrease—of $527. Even in those few years, the system lost money. And when that loss is projected over decades, it is easy to imagine the economic effect: a consistent reduction of programs and a consistent reduction in the role that schools once played in their communities.

The specific evidence about Orange County is not simply presented to the reader. Instead, Johnson invites the reader to imagine "the economic effect" and to see his argument's relevance.

AUTHORITIES are experts who offer specialized knowledge. These sources are used in arguments to give credibility to a writer's claims, to illustrate outside or opposing perspectives, to help explain a topic, or to give a sense of popular opinion or historical context. In his essay "Shakespeare and Narcotics" (from Chapter 11), David Pinching uses authority to help support his own claims about the past:

> The mindset behind such an outlook is the really depressing thing. People like to imagine Shakespeare freebasing and rolling up joints because they see him as an establishment figure. As such, portraying him as a junkie causes amusement and indignation because of our modern attitude to substances that allows certain kinds of intoxication but not others. Shakespeare would not have understood our simultaneous and hypocritical prudishness and excess. He was, in his time, a radical, a novelty and far more dangerous to the establishment with his damning indictments of royalty in *King Lear, Richard III* and *King John,* among others, than any of our media starlets. The idea that you can be anti-establishment by becoming incapable of thinking properly is pretty out of date anyway. And, as the worst excesses of post-Sixties fiction, music and art have proved, "mind-altering" does not necessarily mean "art-improving." Ann Donnelly, the curator of the Shakespeare Birthplace Trust, was unimpressed with the evidence from the pipes and claimed that people are always trying to "come up with reasons for saying Shakespeare was not a genius." This may be something of a spoilsport attitude, but it is a fair one.

As Pinching attempts to discredit the claims that Shakespeare used drugs, he brings in a credible voice on the matter, Ann Donnelly. Notice that Pinching states Donnelly's credentials in a phrase (highlighted) directly after he first gives her name. This short phrase, referred to as an *appositive*, helps writers quickly explain their sources' qualifications. Since authorities are a kind of evidence, explaining their qualifications is a way of explaining the relevance of the evidence.

Authorities, or references to outside sources, can be used in a variety of ways, but they are used most often to give an idea credence or believability. In his essay "Lunar Eclipse," Ed Bell follows up the initial point of his paragraph with a quotation:

> Because of light pollution, some people have never seen a dark sky. "In most cities, there's little point in gazing at the sky—unless you're fascinated by the sight of a few stars and some airplanes against a glowing background," says David Tennebaum, a science, health, and environment writer (for ABCNEWS.com, *Technology Review, Bio-Science, Environmental Health Perspectives, American Health,* and other publications). "If you have not seen a truly dark sky, you may not know that the urban glow conceals a network of uncountable stars in intriguing constellations."

Jonathan Ernst/Reuters/Corbis

In court cases and Congressional hearings, testimony and authority often blend together.

TESTIMONY is an eyewitness or firsthand account. An arguer's personal testimony appeals to readers by inviting them into his or her vision of the world. For example, Ed Bell's essay on light pollution strategically opens with his own testimony:

> The moon is gently orange with a thin, star-white bottom; its dark top disappears into the blackness surrounding it. Thirty-seven miles north, in town, it lacked the magically dull glow it has here eleven miles south of

the store and gas station and twenty miles north of the next nearest bright lights. Driving east while it was still light out, I noticed a crescent moon, but knew it was a full-moon night. An eclipse! I watched as the crescent got smaller and smaller; I was hoping to find a dark spot where I could pull off to the side of the road and take in the full beauty of a lunar eclipse. I was approaching town, though.

> I grew up in the country, then moved to the city in my early twenties. I must have seen star-filled skies as a child. I don't remember any. After a young adulthood of city lights, I remember the first night I saw the stars again. I was in my mid-thirties, traveling west, and we stopped to camp for the night. The rest of that summer we traveled the West, camping Utah, Oregon, Arizona, pitch-black nights and a billion stars, uncountable, so many that shooting stars were not rare to see and the constellations were so full of other stars I had trouble making them out.

Bell's testimony, a type of evidence, gives a personal angle to the issue. Rather than simply tell the reader "many people are bothered by light pollution," he narrates a personal experience. This testimony establishes Bell's character and helps the reader feel a sense of wonder about the stars.

FACTS are agreed-upon bits of knowledge that do not require further support in an argument. As a type of evidence, facts are verified claims. This is not to say that facts cannot be disputed; they often are. But when arguers use a fact, they assume that it carries its own support. Notice how Laura Tangley uses facts in her article "Natural Passions":

> Even scientists who are most opposed to the idea of animal passion acknowledge that many creatures experience "primary emotions"—-feelings such as aggression and fear that are instinctive and require no conscious thought. Essential to escaping predators and other dangers, fear, in particular—along with predictable freeze, flight or fight responses—seems to be hardwired. A laboratory rat that has never encountered a cat, for example, will still freeze if it is exposed to the smell of this predator.

As readers, we get the sense that Tangley's assertions in this passage can be easily verified, that "primary emotions" in animals are considered a fact among those who study them or observe them casually. This is her starting place. She later goes on to argue that animals feel more than primary emotions, that they experience a complex range of emotions, much like humans. These latter points require other types of evidence beyond a declaration of facts. Like Tangley, many arguers use facts as a starting place and build from what is evident or easily verifiable.

In academic writing, facts that the audience would not otherwise know should be cited, as illustrated in the following excerpt from Charles Nelson's "Investing in Futures: The Cost of College":

It is widely known that college has been a good investment for students. It has traditionally offered many advantages, the most obvious being that some degrees pay off financially. For example, according to the National Association of Colleges and Employers' 2002 Salary Survey, starting salaries for some majors exceed $50,000—chemical engineering: $50,387; computer science: $50,352; mechanical engineering, management information systems/business data processing, accounting, civil engineering, and economics/finance all start above $40,000 (Geary).

STATISTICS are figures drawn from surveys, experimentation, and data analysis. In her essay "Higher Education through Discombobulation" (from Chapter 9), Betsy Chitwood explains her own learning experience and then offers statistical research to support the idea:

> This learning process, albeit an extreme example, motivated me to take risks and seek ways to succeed in my chosen career. The impact of the disorientation was in direct proportion to the personal growth brought about by my "education" and it definitely shaped who I am today.
>
> Evidence from academic research supports this theory. In a study by Craig and Graesser at the University of Memphis, college students participated in an introduction to computer literacy by using AutoTutor, an intelligence tutoring system (ITS). The study, which tracked the effect of confusion and other emotions on students' responses, showed that a higher percentage (68%) of learning gains were achieved when the students were met with confusion (4).

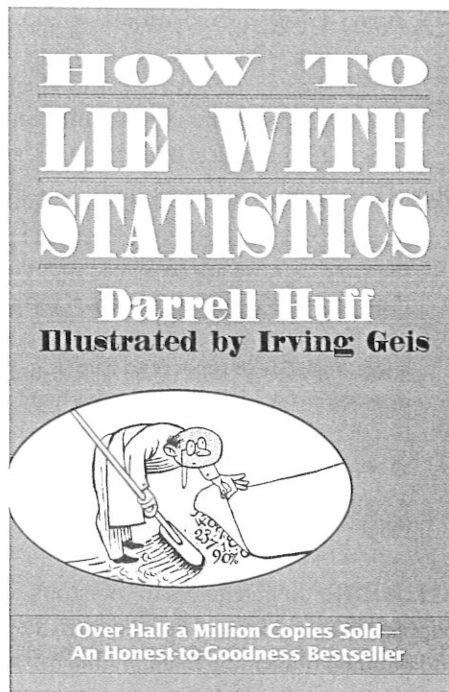
Or notice Ellen Goodman's strategic use of statistics in her article "Culture in Need of an Extreme Makeover":

> But even after the ban on silicone, women chose to "enhance" or "augment" their breasts, this time using saline implants. The annual number of breast enlargements actually grew, hugely, from 32,607 in 1992 to 225,818 last year.

Like all forms of evidence, statistics can be used dishonestly. For instance, opinion polls are often used as evidence of a particular trend in society. But those polls may be conducted on an unrepresentative section of the population. If someone were to poll viewers of Fox News, for example, the results would be characterized by the ideological leanings (the unstated beliefs and values) of that audience. So imagine that Fox News (or MSNBC or CNN) reported the following:

> According to a recent national poll, 72% of Americans are not overly concerned about honesty in the stock market. This suggests that revamping the role of the Securities and Exchange Commission should not necessarily be a priority.

While the statistic gives some sense of legitimacy to the statement, we do not know if the poll was taken on a representative sample of the U.S. population. Also, we do not know the nature of the survey questions. Many respondents could have said they were "concerned" but not "highly concerned" (as they might have been about terrorism or job security). Statistics can be valuable and add legitimacy to claims, but their origin should be revealed to the audience so that readers know not just the numbers, but the process that gives them meaning. (For more statistics and persuasion, see Julie Burks's essay, "The Patsy: A Story of a Number," page 408.)



From HOW TO LIE WITH STATISTICS by Darrell Huff illustrated by Irving Geis. Copyright 1954 and renewed © 1982 by Darrell Huff and Irving Geis. Used by permission of W.W. Norton & Company, Inc.

Activities

1. In small groups, discuss how a writer might use authorities, testimony, facts, and statistics to support one of the following claims: *College football is more like a professional than an amateur sport. Reality TV shows help teach viewers some important lessons about life. Employers should provide more incentives for workers to bike to work.*
2. Explain a recent instance from everyday life when you used authorities, testimony, facts, or statistics to support a claim.

EXAMPLES

Examples are specific occurrences of a phenomenon. Whenever arguers support a claim with particular versions of a point, they are using examples. For example, in her essay about technological addiction (at the end of this chapter), Lynda Smith gives a range of everyday examples that support her claim about "the desire of instant gratification":

> In this fast-paced society of compacted time restraints, we long for more leisure time. At the same time, we are consumed with the desire for instant gratification. We want immediate access to people, information, and services any time, day or night. We believe that somehow if we do everything faster, we will have more free time. Our lives have become a world filled with services to help us move through life with increased speed. We have drive-thrus for food, banking, even laundry so we don't have to leave our cars. We have u-scan checkouts at grocery stores so we don't have to wait in line. And now, different speeds at which we can choose to move through life. There is high speed, turbo speed, and new elite speeds where you can, without leaving your home, hit speeds up to 6.0 Mbps (AT&T).

ALLUSIONS are references to some public knowledge from history, current events, popular culture, religion, or literature. (For more about literature, see page 41.) Allusions add depth and meaning to an argument. By making connections to culturally shared bits of knowledge, allusions link an argument to the world beyond it. In her essay "No Sex Please, We're Middle Class" (from Chapter 8), Camille Paglia alludes to popular culture to develop her argument:

> In the 1980s, commercial music boasted a beguiling host of sexy pop chicks like Deborah Harry, Belinda Carlisle, Pat Benatar, and a charmingly ripe Madonna. Late Madonna, in contrast, went bourgeois and turned scrawny. Madonna's dance-track acolyte, Lady Gaga, with her compulsive overkill, is a high-concept fabrication without an ounce of genuine eroticism.

By using these allusions, Paglia taps into the readers' collective knowledge about popular culture and links her argument to that knowledge, thus adding power to her ideas. Earlier in the essay, she alludes to the "racy lingerie" of Victoria's Secret, the "blazingly raunchy" scenarios of country music, the "Black rhythm and blues" of the Mississippi Delta, and the "hard rock bands of the '60s." When she alludes to the Rolling Stones' recording of Willie Dixon's "Little Red Rooster," Paglia's *New York Times* readers are likely to hear the Stones' "visceral rawness and seductive sensuality."

ANECDOTES are short accounts of a particular event or incident. They often are given in the form of a brief story that supports an arguer's point. While *testimony*, another form of support, comes from an eyewitness ("I saw the train coming around the mountain. . . ."),

an anecdote is told by the arguer as though he or she is an objective reporter of events ("The incident on the train tracks started with the train coming around the mountain. . . ."). The details in an anecdote can provide powerful support: Since anecdotes are examples, they help to draw an audience into a specific scene. However, they should always be relevant to the main idea of the argument.

Imagine that a writer is arguing that the small local farmer has a more positive impact on communities than large corporate farms do. Notice the following two possible anecdotes. Which one seems more relevant to the main claim?

> Martin Grove farmed the fields of Northwestern Ohio for decades, and he bought his supplies locally—everything from basic tools to seed. But last summer, he came into Feed & Supply and made his last purchase: materials for packing up his farm so he could sell it off. In a five-year period, four other local farmers did the same thing, and this year, Feed & Supply has begun laying off employees because the corporate farms that have moved in do not rely as heavily on local business for supplies.

> Martin Grove farmed the fields of Northwestern Ohio for decades. He had fields of corn, wheat, and soybeans, and he developed a healthy orchard of apples—the best around, according to locals. In fact, in the summer of '68, Jerry Foster announced at the town jubilee that, next to Grove's apples, his own apples were fit for birds only. (And some say that the old saying "that's for the birds" comes from Foster's proclamation.)

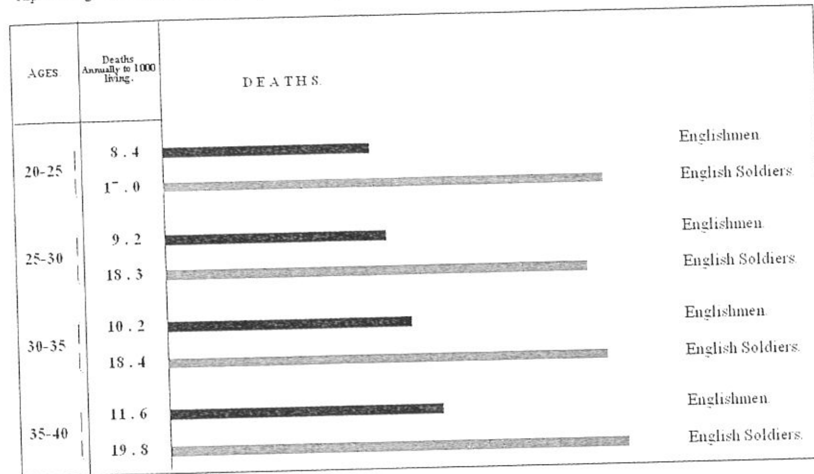
The details in the first anecdote speak directly to the idea that local farmers support communities more than corporate farms do. The second anecdote, while interesting, is not obviously related to this claim. The writer would have to make that connection for the reader.

ILLUSTRATIONS are graphic descriptions or representations of an idea. Writers may illustrate a point with words alone, carefully describing the details of an idea to create an image in the reader's mind. In essence, they are drawing a picture—an example—with words. But illustrations, in the strict sense of the word, use actual graphics. Alone, they can make persuasive points. For instance, Florence Nightingale used graphics to argue about medical conditions. The following commentary, from the Florence Nightingale Museum website, points out significant elements of the illustration:

> The other highly original chart is what I will call the "Lines"—a bar chart showing how soldiers in peacetime, living in their barracks in England, were dying at a faster rate than civilians in the cities around them.
>
> There is a black bar in each of four age ranges, and a longer red bar. The black bar is the number of civilians who die each year, and the red is the number of soldiers. There are a number of curious overtones to this graphic, which may just be a coincidence.
>
> First, the title "Lines" (in ornate script in the original) makes it sound like a poem, as in Lines on the Death of Bismarck. There are four pairs of bars, when actually the message

LINES

Representing the Relative Mortality of the Army at Home *and of the* English Male Population *at corresponding Ages*



Note The Mortality of the English Male Population, at the above Ages, is taken from the English Life Table (1849-53)

> is clear from one pair alone. There seems to be a kind of repetition, as in a chorus. This effect is increased by the words, repeated at the end of each line, English Men, English Soldiers . . . It sounds like a funeral march.
>
> Second, the red bar for the soldiers would certainly make some people think of the "Thin Red Line," which had become famous in the Crimean War when a two-deep row of red-jacketed British infantrymen stopped a Russian heavy cavalry charge, something that was thought to be impossible. The thin red lines on Nightingale's chart represented these same heroic soldiers who were now dying unnecessarily because of bad hygiene in their barracks.

SCENARIOS are fictional or hypothetical examples. As a persuasive tool, they can support nearly any argumentative claim. For example, imagine a writer, Angela, is arguing about grading policies at her college:

> The problem with the four-point system is that it does not present the true variation among students. Imagine three students all achieve a 4.0 in a class. James's final score was 93%, Tonya's 95%, and Will's 100%. The 4.0 final grade would not reflect the broad range of performance between James and Will. In fact, Will's perfect score is not at all differentiated from a student who balances on the margin of a 4.0 and 3.0.

Although these students are not real people, they put a picture in readers' minds. Scenarios like these help readers to envisage an otherwise abstract point. If the scenario is likely, readers can imagine it actually occurring. If the scenario is detailed enough (and if

those details correspond to a possible reality), readers may not make a distinction between what's possible and what has occurred. In Angela's scenario, readers can easily imagine the three students and their grades.

When arguers use scenarios, they should signal the audience that they are in hypothetical territory. This can involve a simple cue such as "Imagine that . . ." or something even subtler, such as verb mood:

> If one student were to score 93%, another 95%, and another 100%, they would all receive a 4.0. However, the final grade would . . .

Or notice Tracy Webster's strategy in his argument, "Big House in the Wilderness." Webster simply asks a set of questions that introduce readers to a possible reality:

> What would happen if Americans could somehow overcome their own selfish and hypocritical desires to overbuild and overdestroy, and instead make *every* effort, not just *some* effort, to peacefully and respectfully co-exist with non-human life? Doing this would require a new sort of vision—seeing all the wildlife that they presently overlook. It would also require a new look at rhetoric, replacing words like "harvest" with "slaughter" and "environment" with "home." What would happen if all new homebuilders saw themselves more as visitors, guests, and newcomers? And better yet, as intruders, conquerors, and imperialists?

Notice that the verb mood often changes in scenarios from the *indicative* ("Americans overcome their own desires") to the *subjunctive* ("Americans could overcome their own desires").

Literary Works

Literary works function uniquely as allusions. Novels, poetry, drama, songs, and short stories speak to broad themes such as government corruption, self-sacrifice for family, institutional oppression of the individual, self-discovery, and so on. Writers often allude to literature because it sheds light on human affairs. In each of the following examples, writers use a literary passage or quotation to give dimension to an idea. Notice how the writers set up the literary work: Before they give the key lines or scene, they first give the author and title. For fiction (novels and short stories), they also give a brief explanation of the overall setting or scene. And they always explain the relevant idea—the point that the reader should take away from the excerpt:

- If we paid attention only to mainstream media and governmental posturing, we might come to see revenge as a simple knee-jerk human response, a reaction that is inherently justified and morally correct. But the path of revenge is difficult, fraught with its own

continued

hardships, ambivalences, and self-destruction. Shakespeare's *Hamlet* embodies the uncertainty; he is caught between the desire to strike out against his father's murderer and a web of other, unspeakable, thoughts:

> To be, or not to be: that is the question:
> Whether 'tis nobler in the mind to suffer
> The slings and arrows of outrageous fortune,
> Or to take arms against a sea of troubles,
> And by opposing end them. (*Ham.* 3.1.56–60)

- Throughout our history of warfare, there has been one constant: It always exceeds our expectations of horror and confusion. Each new war seems to bring about its own particular type of confusions. In *Legends of the Fall,* Jim Harrison tells of World War I, when American soldiers were caught between an old world of physical contact and a new world of technological horror. The scene is a Parisian hospital. The main character, Tristan, has lost his brother to German mustard gas and has gone on a rampage of revenge by scalping numbers of German soldiers. After being subdued by his commanders, Tristan now stands in the main office of a psychiatric ward:

> The doctor so doubted his ability to knit up [the soldiers'] souls that he became almost bored with his patients and did all he could to have them shipped home. Thus he was fascinated with the arrival of Tristan when the ambulance driver advised him that a true "crazy" was waiting to be unloaded. The doctor sent attendants and read the report from Tristan's commander. He felt himself oddly unmoved by the scalpings and was surprised at the commander's horror. How could mustard gas be considered normal warfare and not scalping, in the reaction to the death of a brother? (218)

- The sexuality of young women in small towns is far more complex, and even political, than what polite society normally wants to acknowledge. Barbara Kingsolver's narrator in *The Bean Trees* invites the reader into the lives of several young women whose lives illustrate the deep connections among sexuality, social acceptance, reproduction, and motherhood. Almost immediately in the novel, we hear of Jolene, a small-town Appalachian girl who comes into a medical center with a gunshot wound to the shoulder:

> Jolene was a pie-faced, heavy girl and I always thought she looked like the type to have gone and found trouble just to show you didn't have to be a cheerleader to be fast. The trouble with that is it doesn't get you anywhere, no more than a kid on a bicycle going no hands and no feet up and down past his mother hollering his head off for her to look. She's not going to look till he runs into something and busts his head wide open. (8)

- Americans, say many scholars and thinkers, have always been after something that we destroy by pursuing it. F. Scott Fitzgerald's classic *The Great Gatsby* brings us face to

continued

Literary Work *continued*

face with a narrator who realizes this at the end of the novel, as he peers over the Eastern coastline:

> And as the moon rose higher the inessential houses began to melt away until gradually I became aware of the old island here that flowered once for Dutch sailors' eyes—a fresh, green breast of the new world. Its vanished trees, the trees that had made way for Gatsby's house, had once pandered in whispers to the last and greatest of all human dreams; for a transitory enchanted moment man must have held his breath in the presence of this continent, compelled into aesthetic contemplation he neither understood nor desired, face to face for the last time in history with something commensurate to his capacity for wonder. (189)

Religious Texts

To many people, religious texts are paths to the truth. But in public argument, in situations that involve diverse audiences, writers cannot simply hold up a particular religious text *as* truth. Because there are so many religious perspectives (Hinduism, Buddhism, Sikhism, Judaism, Christianity, Islam, Shinto, Confucianism, just to name a few), and so many religious texts (the Vedas, the Bhagavad Gita, the Torah, the New Testament, the Koran, the Guru Granth Sahib, and so on) referring to one as the truth is apt to alienate readers. Because most audiences are diverse and cannot be assumed to hold a consensual belief in one religious text, writers must be cautious. (One cannot assume, for instance, that everyone accepts, as fact, that Jesus is the son of God.) But, with that caution in mind, writers can use religious texts. These books have enormous significance in people's minds, whether or not they are followers of a specific faith.

So, how do religious texts function in argument? In the New Testament, Jesus says, "Love your neighbor," and then tells a parable about the Good Samaritan to explain the concept. Whether or not one's reader is a Christian, Jesus's point about love and his supporting parable can be used to develop an argument about personal relationships, national policies, or world affairs. Because the particular religious teaching transcends Christianity, it can be applied to various situations and arguments. The ideas of Buddha, Muhammad, Parsvanatha, and others can be used in the same way—not as unquestionable truths, but as appeals to value. At the very least, these appeals can help writers create common ground with their readers.

APPEALS

Appeals are a major form of support in argumentation. They call on the reader's sense of logic, character, emotion, need, or value. Because the arguer makes a connection between the topic and the reader's consciousness, appeals call for intellectual commitment, both on the part of the arguer and of the audience.

Appeals differ from forms of evidence (statistics, facts, illustrations, etc.) in an important way: While evidence is already formed for the writer, an appeal must be constructed out of logical steps, shared values, beliefs, or needs. The writer must *create* the bridge between the topic and the audience. For this reason, Aristotle called appeals *artistic proofs* and forms of evidence *inartistic proof*.

Appeals constitute most of what we know as argument; without appeals, other types of support such as statistics, examples, and illustrations have little persuasive power. In the hands of a good writer, appeals make all the difference between a flat argument that does not speak to audiences and an engaging argument that calls out audiences' reasoning power, values, beliefs, and needs. Good writers can use appeals to make a topic come to life and enter the lives of their audience.

Notice how the above leaflets, dropped into Iraq during the first phase of the war in 2003, appeal to values.

Appeals to Logic

In mainstream culture, people believe that something is "true" if it can be substantiated with mounds of data. But in academic writing, it's not the mounds of data but the appeal to logic that matters most. In fact, without a logical framework, statistics and facts can mean nothing—or anything. Writers use an appeal to logic whenever they invite an audience to think through an idea, to walk along an intellectual path. Sometimes, that invitation is direct. Statements like the following show a writer appealing explicitly to readers' logic:

- Let us consider the following reasons . . .
- Because of the stated conditions, we can only conclude that . . .
- Yet another reason to accept the idea . . .
- Given the following rationale, we should dismiss the idea of . . .

Or in the next passage, the writer calls on readers to set aside emotions and investigate the legal issues. This, too, is a direct appeal to logic:

> Gay marriage in America has become a fairly emotional issue. But we should work around the emotions involved and investigate the issue of rights and state law. It has been established that individual states can define marriage. The question, then, lies in the role of other states: Does every state have to honor a marriage licensed in other states? This, it seems, is merely a matter of constitutional law.

John Metz

But logical appeals are often more indirect. The writer often establishes a subtle line of reasoning: a series of logical steps (or premises) that lead arguer and audience to a main claim. If the path is well crafted—with few missteps or gaps between premises—readers follow along and become more accepting of the overall argument. Sometimes the line of reasoning is easy to see; it has been made explicit. (Writers may even use cues such as "first" or "the first reason.") But the line of reasoning is usually harder to detect. It works quietly behind the progression of supporting ideas. In the following passage from "Somewhere in the Past" (Chapter 11) Cameron Johnson invites the reader to follow his line of reasoning, to see the links among school budgets, school programs, students, and the surrounding community. Once these logical links are established, Johnson makes the final point that less funding equals less community:

> Another example helps illustrate the vital connection between school and community. Many Clarksville citizens grew up in, and have fond memories of, the school's summer recreation program that was cut back steadily each year and finally abandoned in 1996. While this program can be seen as nonessential, it was hardly fluff in the budget. The summer recreation program was an important link between school and community. It not only gave kids something to do, but it helped forge a stronger bond between school and student, and this bond created other bonds: between school and community and between community and student. Because of less funding, schools end up offering less support (for academics) and less attraction (for extracurricular activities). In the long run, schools with less funding become less important to students and less important within the community as a whole. The summer recreation program is just one example of this subtle, or silent, breakdown.

For an argument to be successful, the reader must accept each premise in the line of reasoning—not stumbling, getting off the path, or stopping halfway through. Therefore, the writer has to make certain that each step is supported or made acceptable so the reader can move forward. This is where all the support strategies come into play: personal testimony, allusions, facts, examples, statistics, and primary and secondary sources. Imagine an argument emerging from the following premises:

- Popular culture influences how people think.
- Mainstream popular culture encourages young people to be overly energized and unfocused.
- The lack of focus is one of the main hurdles to educational success—and seems to be increasing in schools and colleges.
- The recent surge in energy drinks increases the problem because they decrease students' ability to maintain focus.
- The energy drink fad adds more twitch to an overly twitchy generation of students.

Each of these premises needs support. For instance, the first premise calls for some examples in the present or past that show a pop culture message influencing the behavior of the masses. The second premise calls for examples of pop culture encouraging people to be unfocused. Specific commercials, messages, products, and fads would illustrate the point. For the third and fourth premises, the writer might search for teachers' testimonies about students. Once all the premises are supported, the final claim can be accepted. (In this way, a line of reasoning can function as the scaffolding of an argument. When a writer thinks through the premises that support the main claim, she can discover a basic structure or support system for the argument.)

TYPES OF REASONING *Deductive reasoning* builds a conclusion from accepted premises or general principles. Often, this means relying on classes (all dogs, all men, all raincoats, all months beginning in J). For example:

- All birds have beaks. (general statement about the class)
- Polly the parrot is a bird. (specific statement that puts Polly in the class)
- Therefore, Polly has a beak. (conclusion built from the premises)

Deduction may also rely on, or build from, a definitional statement—a statement that says what something is:

- Bipeds are animals with two legs.
- Ostriches are two-legged animals.
- Therefore, ostriches are bipeds.

Deductive logic often lurks behind legal or ethical decisions. A general principle or legal definition helps people conclude something about a specific case or situation. In the following passage, the writer makes a deductive case that begins with a constitutional premise and works toward a specific claim about gay rights:

> Under the Constitution, people are endowed with equal rights. Throughout history, we have been prompted to act from that fundamental notion despite public opinion about minorities: women, African Americans, Hispanics, and Japanese Americans. Gay and lesbian couples are no different. Their sexuality does not strip them of citizenship, nor exile them from constitutional rights. They should be given the same rights as heterosexual couples despite public or religious opinions to the contrary.

Inductive reasoning builds from specific premises and leads to a general claim. Here's a basic example: *I found a mouse in the toilet last week. I saw a mouse in the kitchen yesterday. Therefore, mice have found a way into the house!* In other words, anytime we make a conclusion based on several specifics, we are doing induction. Of course, the situation can be

John Metz

What kind of reasoning is operating in this billboard? What are the premises?

more sophisticated. In the following line of reasoning, the preliminary steps are specific, and the more general concluding statement is derived from those specifics:

- The warmest average annual temperatures recorded have occurred since 1991.
- Throughout the world, most high-temperature records have been set in the past three years.
- On the whole, average winter temperatures have increased in the past fifty years.
- While the average temperature of all regions is increasing, no regions have experienced average decreasing temperatures.
- The Earth is warming.

You are probably familiar with inductive logic. It is the primary engine of scientific argument and of many of the arguments that come from scientific study. Much of what we accept about our food, medicine, even our own health comes from inductive reasoning. Researchers line up tests to prove something occurs not just once but many times under certain conditions. Then they draw a general conclusion about such things as eggs, liver, artificial sweeteners, red wine, and so on. But the conclusion does not always account for other variables. Consider this increasingly common scenario: A pharmacology company is studying a particular kind of pill. The company does many studies, testing the pill on a variety of animals and then people. After hundreds or thousands of tests, the researchers conclude that the pill works to increase bone density. Their logic looks something like this:

The pill increased density in test subject A.

The pill increased density in test subject B.

The pill increased density in test subject C. (And so on.)

Therefore, the pill increases bone density.

The many premises seem to support the conclusion. However, the conclusion is not certain. The researchers may later discover that the studies did not account for a particular age range, particular racial variables, even particular genetic predispositions. Therefore, the company will qualify its conclusion: The pill increases bone density in Caucasian women over 60 with a particular bone loss disease. As this example shows, induction always attempts to outrun the variability of life—all the possibilities that might challenge the conclusion.

Analogical reasoning depends on comparisons (or analogies). The arguer moves from one particular situation or case to another. Comparisons, metaphors, allegories, parables, and examples all have an analogous quality: they argue that if two things are alike in certain respects, they are also alike in other respects. Analogies shed light on something by comparing or contrasting it with something familiar. For example, an analogy can be historical, explaining a present situation by comparing it to a similar situation from the past. Some people have compared the U.S. involvement in Afghanistan to the Vietnam War. Drawing attention to similarities between the two situations (an elusive enemy halfway around the world, a divided nation, a questionable cause, and so on) sheds light on the Iraq war and makes a case for pulling troops out. The line of reasoning is that since key circumstances are similar, the results are likely to be similar.

By John Darkow, *Columbia Daily Tribune*, Missouri, 9/24/2009/ PoliticalCartoons.com

In everyday life, we often use a form of reasoning called the *enthymeme*, which is a line of reasoning that contains an unstated premise. The unstated premise is so widely accepted that it goes unmentioned. The audience is left to conclude or assume the point. For example, if someone says, *I've received high marks on every assignment thus far, so I'm going to receive a high grade in the course*, she omits a point: high grades on all the assignments will lead to a high grade in the course. This point is so widely assumed that it can safely be left unsaid.

In Stephen Toulmin's model of reasoning, which is discussed more in depth in Chapter 5, the assumption high *grades on all the assignments will lead to a high grade in the*

course is called a **warrant**, which is the link between a claim and its grounds (the claim's supporting reason). The warrant (which is sometimes stated, sometimes unstated) expresses why a person would accept a claim based on the grounds.

Grounds: I've received high marks on every assignment thus far. (support for the claim)

Claim: I'm going to receive a high grade in the course. (an assertion that requires support)

Warrant: High grades on all assignments will lead to a high grade in the course. (why the grounds support the claim)

As Chapter 5 explains, unstated premises (or warrant assumptions) constitute a significant part of any argument. Good arguers tap into that quiet part—into the realm of assumptions and values that make arguments acceptable, questionable, or especially heated.

Logical Fallacies

Good logic is critical to sound argument. The tighter the logic, the better the argument. But poor logic often sounds good. Politicians use nice-sounding phrases and reasonable-sounding premises to hide poor logic. If we had no tools for figuring out good versus bad logic, we might simply accept all those nice-sounding arguments. That is why readers and writers of argument study *logical fallacies:* flaws in the structure of an argument that make a claim invalid. A fallacy is a falsehood, so a logical fallacy is a logical falsehood that makes no sense within a given situation. Some of the most common fallacy types are discussed next, but many more types exist.

Ad hominem (Latin for *to the person)* fallacies are personal attacks. Instead of responding to the *ideas* someone has put forth, the arguer attacks the *person* or some quality of the person. In politics, these personal attacks draw attention away from important policy debates and focus instead on character. For example, if one group does not believe in the science that supports global warming, they might make fun of Al Gore, a leading voice on global warming, for having a big house. (The size of Gore's house has nothing to do with the evidence about global warming.) Concerns about someone's character can be relevant to an issue. However, ad hominem attacks focus on character at the expense of the issue at hand.

Strawperson fallacies involve misrepresenting a position and then dismissing it as wrong. In this type of fallacy, an arguer sets up an opposing position (called a

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strawperson or *scarecrow*) that is easy to knock over or beat up. For example, imagine that Molly opposes leash laws. But Tom argues that dogs should be kept on leashes when they are walked through town. Rather than engage Tom's position in a fair manner, Molly responds by saying, "Tom isn't a dog person. He thinks they should always be tied up and *never* allowed to run free." Molly has distorted Tom's position. She has made him seem unreasonable, even mean-spirited, which unfairly bolsters her position.

Post hoc, ergo propter hoc (or faulty cause-effect) fallacies claim that if one thing happened before another, then the first thing must have caused the second. *Post hoc, ergo propter hoc* is Latin for "after this, therefore because of this" (and is often shortened to *post hoc*). Such arguments are false because they confuse sequence with cause. If a rooster crows just before sunrise, that rooster didn't cause daylight. That's easy to conclude. But in public life, things can be more complex. For instance, if a new governor takes office just before the state's economy goes into a recession, the cause might involve a range of complex financial dynamics—and *not* the new governor.

Either/or fallacies oversimplify an issue by claiming that only two options exist when there are more options to choose from. The old slogan "love it or leave it" suggests only two choices. A third (unmentioned) alternative is to stay and work toward changes that will improve the situation. Either/or thinking can transcend particular arguments and seep into the collective state of mind—the national consciousness. For example, in the United States we tend to label political positions as either conservative or liberal.

Hasty generalizations draw conclusions based on too little evidence. For example, generalizing about a city because you drove through it on a Sunday morning can be dangerous because cities are quieter and have less traffic on Sunday mornings. Claiming that Santa Rosa is a sleepy little town, based on one Sunday morning, ignores many other dimensions and possibilities about the town. A generalization based on so little evidence is considered *hasty* or *broad.* This intellectual habit often surfaces in arguments about gender, race, age, sexual orientation, and even vocation—for example, *lawyers are not to be trusted.*

Non sequitur (Latin for *it does not follow*) skips or confuses logical steps. The conclusion cannot logically be arrived at through the premises. Any argument in which the

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conclusion doesn't follow logically from the premise can be considered a non sequitur. Each of the following conclusions may be true, but they do not follow logically from their premise: Because Bob is smart, he will get a good job. Alphie is honest; therefore, he will lead a happy life. The buildup of nuclear arms in the past twenty-five years was the only thing that kept the United States out of war.

Slippery slope fallacies claim that a certain way of thinking or acting will necessarily lead to more of the same—that once you begin sliding down a slippery slope, you will keep sliding. While one action may in fact lead to similar actions, the slippery slope fallacy appeals to fear by claiming that taking a certain moderate action will lead to more extreme actions: *If we put limitations on the sale of semi-automatic guns, it won't be long until shotguns are illegal, then steak knives.*

Begging the Question (also called *circular reasoning* and, in Latin, *petitio principii*) involves supporting a claim by restating (in different words) the claim itself. No support is provided; the arguer simply repeats the claim. *Tim would be a good president because he is presidential material* is circular reasoning. It is like a dog chasing its own tail. A student who argues that he should not receive a *C* because he is an *A* student is caught up in circular reasoning. Instead, the student must argue that he deserves an *A* because of his quality of work.

Red herring fallacies are deliberate attempts to change the subject. Instead of dealing with the actual argument, the arguer introduces irrelevant points to distract the audience. A red herring is like rattling keys in front of a crying baby: the baby's attention becomes focused on something else—the keys. If a supervisor confronts an employee about being late for work again, and the employee responds that tech support still hasn't solved his computer problem, he is using a red herring to shift attention away from the supervisor's charge.

Bandwagon fallacies claim that because everyone else is doing it, you should, too. They invite people to accept something because it is popular. This is also referred to as *herd mentality.* If a child argues for her right to get a tattoo by pleading, "All of my friends already have one," she is relying on the bandwagon fallacy. Or if a cell phone company urges people to buy its product by proclaiming, "Everyone's coming over to our plan," it is relying on bandwagon logic, which—by the way—tends to work on consumers.

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Association fallacies claim that two people or things share a quality just because they are somehow associated, connected, or related. One type of association argument is guilt by association, in which the arguer claims that one person or thing has the same negative characteristics as another because the two are somehow associated. Honor by association is also possible, and can be just as fallacious. A particular type of association fallacy is *reductio ad Hitlerum*. This type of fallacy claims that anything Adolf Hitler (or the Nazi party) did or thought must be evil. (The same false logic could be applied to anything: Republicans, Democrats, the ACLU, Osama bin Laden, and so on.) The logic is that something is evil because it is associated with Hitler. But genocide, for example, is evil on its own merits, not because of Hitler. And Hitler was a vegetarian, but that doesn't make vegetarianism evil.

Golden age fallacies characterize the past as broadly and inherently better. Arguments based on a golden age perspective prompt us to imagine some bygone era as though no crime, no immodesty, no illicit behaviors existed before the present. In the mainstream media and in popular political rhetoric, people often associate the 1950s with purity, simplicity, and easy living. They rely on Hollywood versions of the past and on sanitized memories while ignoring the violence, war, and rampant racism of the era. Certainly, life may have been more innocent or more peaceful for some people at some point in the past. But only lazy arguers imagine that all parts of their civilization were inherently better "back in the day." Such a perspective yields some other fallacies such as appeals to antiquity or appeals to tradition, in which arguers imagine that any values from the past are good simply because they are "tried and true."

Activities

1. Take one of the fallacies listed in this section. In a small group, generate at least two statements that illustrate the particular fallacy. Share the two statements with the rest of the class and explain how they are flawed.
2. Do a Google search for logical fallacies. Find one not listed in this section and report it to others in your class. As you describe the fallacy, invent your own statement that demonstrates the flawed logic. If possible, use a timely political or cultural issue.

Appeals to Character

Appeals to character draw attention to the arguer's (writer/speaker's) personal nature, integrity, experience, wisdom, or personality. They are used to fend off any doubts about the arguer's credibility. Appeals to character are usually a small part of a bigger argument and are used to make the audience comfortable and more apt to accept other claims. They are an explicit strategy for building trust or confidence in the arguer. For instance, imagine that a writer is arguing against increasing standardized testing in elementary education. To create credibility, she draws attention to her own experience:

> In my fifteen years as an elementary school teacher, I have watched students' learning time diminish and their test-taking time greatly increase. I have seen first-hand how students leave behind their curiosity and wonder—essential for the development of young minds—and fix their attention on the little circles and blanks on standardized tests.

Politicians often use appeals to character, either to suggest something positive about their own credibility or to make voters doubt the credibility of their opponents. For instance, a presidential candidate may discuss his military duty to show his own patriotism and then point to his opponent's lack of military duty. Even campaign photos of political candidates work as appeals to character.

Appeals to character can be used dishonestly, as a way to avoid focusing on other issues. For instance, if someone asked a politician about the logic of a policy decision and she replied, "Don't question what's in my heart," she would have side-stepped the question and drawn attention to something the audience cannot possibly know anyway: her "heart." Such dishonest rhetorical moves are common in political debate. In the following passage from George Orwell's *Animal Farm*, Squealer, the pig, appeals to character:

> We pigs are brainworkers. The whole management and operation of this farm depend on us. Day and night we are watching over your welfare. It is for your sake that we drink that milk and eat those apples.

Squealer focuses on the pigs' intentions, something his audience cannot possibly know or dispute. The move distracts the animals from asking other questions about the pigs' behavior.

In formal argument, appeals to character should be used with caution. While they can help an arguer create credibility, they should not replace a strong logical argument. Some voters may be swayed by good looks, charismatic gestures, or even a good movie career, but academic readers look for sophisticated logic as the primary attribute of an argument.

Appeals to Emotion

Appeals to emotion draw on the emotions (fears, hopes, sympathies, yearnings) of the audience. In her essay "More Than Cherries" (from Chapter 8), Samantha Tengelitsch appeals to her readers' emotions by describing the illness and death of a local woman:

> Last spring an article ran in the local paper about a young woman running for the prestigious title of National Cherry Queen. It told the story of Lauren Hemming, a twenty-year-old college student, who was raised on a Peninsula Township cherry farm and who was battling non-Hodgkin's lymphoma (a cancer of the lymphatic system) while running for the prestigious title. A photograph included with the article captured Lauren sitting cross-legged in a hammock in front of her home. It was spring and sun shown brightly. At the time of the photograph, Lauren was undergoing chemotherapy for the lymphoma and had lost her hair, but this in no way detracted from her beauty. Her story was inspirational and touched me as I'm sure it touched others.
>
> Unfortunately, Lauren was not able to continue with her bid for Cherry Queen. Instead, she fought bravely to save her own life and the following winter died from the cancer, which had spread to her brain.

Tengelitsch even points to her own emotional state—and attempts to draw readers into a sense of loss. As her argument about cause continues, it depends heavily on forms of evidence, so this initial emotional appeal helps to create an important human element.

Appeals to emotion are sometimes used dishonestly. For instance, notice another set of appeals from George Orwell's *Animal Farm,* in which Squealer tries to convince the other animals that only the pigs should eat the milk and apples:

> "Comrades!" he cried. "You do not imagine, I hope, that we pigs are doing this in a spirit of selfishness and privilege? Many of us actually dislike milk and apples. I dislike them myself. Our sole object in taking these things is to preserve our health. Milk and apples (this has been proven by science, comrades) contain substances absolutely necessary to the well-being of a pig. We pigs are brainworkers. The whole management and operation of this farm depend on us. Day and night we are watching over your welfare. It is for your sake that we drink that milk and eat those apples. Do you know what would happen if we pigs failed in our duty? Jones would come back! Yes, Jones would come back! Surely, comrades," cried Squealer almost pleadingly, skipping from side to side and whisking his tail, "surely there is no one among you who wants to see Jones come back."

Squealer appeals to his audience's sense of fear. Rather than appeal to their logic, which might prompt the other animals to think in more reasonable ways, Squealer blurs the issue with panic. In this case, the dishonest Squealer knows that the other animals' fears will allow him to justify an unreasonable claim.

Appeals to Need

Appeals to need make a connection between the subject and a basic human need (such as food, shelter, belonging, intimacy, self-realization, etc.). Like appeals to value, appeals to need tap into a broad spectrum of human affairs. They try to reach inside an audience, into people's essential requirements for living.

Appeals to need can be highly effective. For instance, if many people are living in poverty, a politician may attempt to connect their basic human needs (food, work, security) to his or her particular goals. The Bolshevik revolution in Imperial Russia, which overthrew the czar and established communist rule for most of the twentieth century, gained momentum by appeals to need. Because so many people were poor and lacked basic elements of survival, the Bolsheviks were able to convince them to join their cause and overthrow the aristocracy. In more recent times, we know that terrorism is bred at least in part out of poverty, out of conditions that leave people in need. When people's basic needs are not met, they are vulnerable; others can appeal to the void in their lives and draw them into behavior they would not otherwise consider.

But appeals to need are not exclusively used for destructive ends. They can be used to make valuable arguments. For instance, political leaders may argue for universal health care as a basic human need, against those who place more importance on profit. In American politics, basic human needs often are pitted against profit or economic growth: basic individual needs versus broader economic goals.

Notice how Samantha Tengelitsch distinguishes between hospital policies and women's needs during the birthing process:

> Women actually experience less pain at home. During labor, oxytocin, the hormone that causes contractions and helps the baby to be born, works in harmony with endorphins—the body's own pain-relieving hormone. During a homebirth, the woman's body will release these hormones according to her needs and she will usually cope well with the sensation of labor.

Appeals to Value

Appeals to value make a connection between the topic and a shared value or principle (such as fairness, equality, honor, kindness, selflessness, duty, responsibility, profit, or practicality). For example, in her essay "In Defense of Darkness" (from Chapter 5), Holly Wren Spaulding links her topic, nighttime darkness, to values such as mystery, enchantment, release, and calm. She even nudges readers to treasure these values, to find them precious in our busy everyday lives:

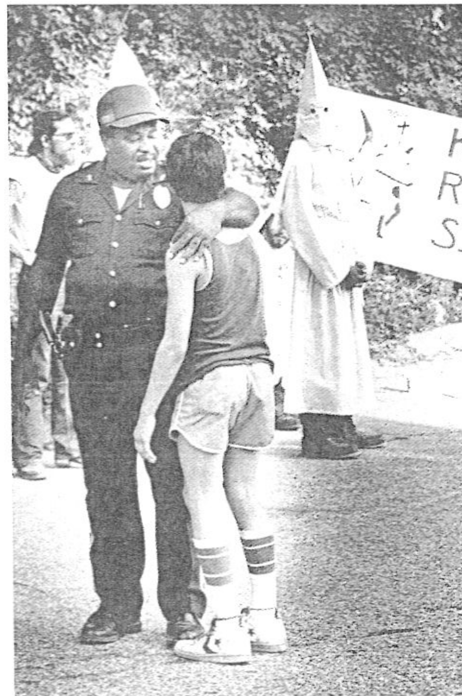
> It's like this: darkness bleeds the boundaries between myself and that which is just beyond my physical form. It contains unknown depths (the lake is hard to make out as its surface melts into the rest of night), enchantment, and a release from the manners

and mannerisms of daytime, circumscribed as it is with routine and work and propriety. Nighttime darkness also bears the prospect of sleep and dreams (increasingly precious in this age of insomnia and sleep disorders), and an unbridling of inhibitions by way a kind of anonymity, if not invisibility. In the dark one finds light-footed walking and slowness; a sense that there is enough time and that rushing is no longer necessary.

Like Spaulding, all good arguers understand that people are moved by their sense of value. Good arguers know how to bring a particular value to the foreground and make it seem pressing. For example, notice how Justin James in "Standardized Testing vs. Education" (from Chapter 7), highlights the value of curiosity over high test scores:

> The [No Child Left Behind] act has placed an emphasis on accountability, which is being determined by student test results. Test scores might rise. But does that really mean the schools are doing a better job or students are getting a better education? The current emphasis on testing can have harmful results. What's more, the method used to find out the scores teaches students a dangerous definition of *education.*
>
> The emphasis placed on standardized testing teaches students that *education* means getting content from a teacher or getting good at a skill. They come to think *education* means getting a grade on a test, accumulating points, and arriving at an average grade based on those points. But students will benefit more in all aspects of life if they can experience education differently—as having to do more with exploring, discovery, being curious. Standardized testing deprives students from the opportunity to experience an education that values curiosity, and is more valuable than an education consumed with standardized tests.

Appeals to value may be the most intense and abundant appeals in popular arguments. Whenever someone says, "It's not fair!" he or she is appealing to a value (fairness). In fact, any argument based on equality, justice, duty, responsibility, security, or honesty probably relies on an appeal to value. When arguers can connect a particular point to a broader value, they tap into something beyond their particular argument and call on the belief system of both their audience and the broader public.


Bettmann/CORBIS

Some situations contain a range of competing values.

Activities

1. For one of the following claims, develop a line of reasoning with at least three steps. Explain what support strategies could be used to develop each premise.
   - Facebook should be used in college classes because it engages students in course material and helps them stay actively involved.
   - Because it is harmful to the environment and consumers, holiday shopping must be reduced.
   - Elementary school classrooms should rely less on computers.
   - Colleges and universities should offer more women's sports.
2. Develop an inductive line of reasoning that supports a claim about the students in one of your classes.
3. As a class, choose a popular political, social, or cultural topic. Then list the appeals to value that are used in the arguments about the topic. (Make sure to explore all the positions toward the topic.)
4. Carefully examine an advertisement and describe how it uses an appeal to character, emotion, need, or value.