Constructing Knowledge

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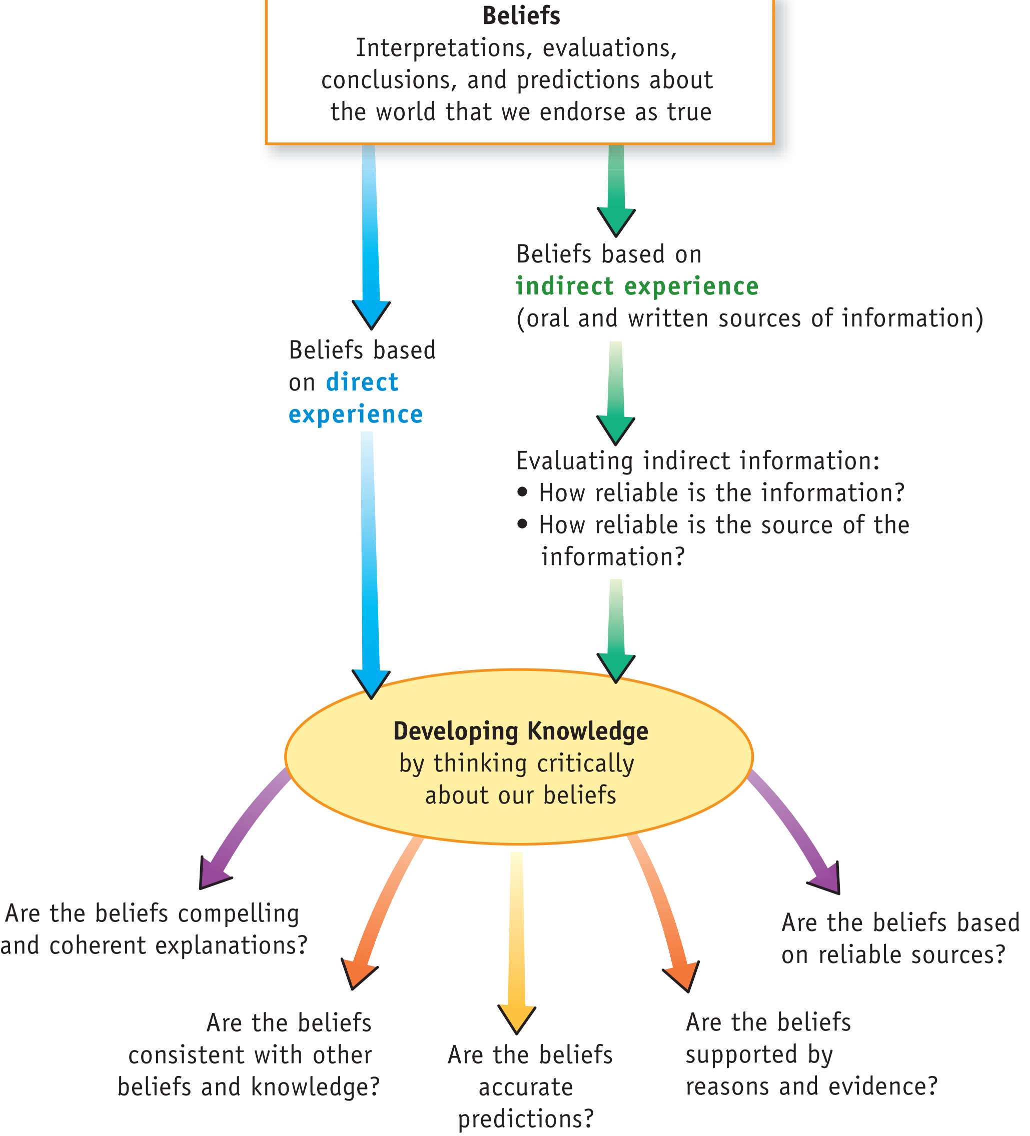

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As your mind develops through your experiences and your reflection on these experiences, your perceptions of the world should continue to develop as well. By thinking critically about your perceptions, by seeking to view the world from perspectives other than your own and to comprehend the reasons that support these perspectives, you should find that your understanding of the world becomes increasingly more accurate and complete. As you have seen in the previous chapter, much of your knowledge of the world begins with perceiving. But to develop knowledge and understanding, you must use your thinking abilities to examine this experience critically. Increased understanding of the way the world operates thus increases the accuracy and completeness of your perceptions and leads you to informed beliefs about what is happening.

Believing and Knowing

The beliefs you develop help you explain why the world is the way it is, and they guide you in making decisions. But all beliefs are not equal. Some beliefs are certain ("I believe that someday I will die") because they are supported by compelling reasons. Other beliefs are less certain ("I believe that life exists on other planets") because the support is not as solid. As you form and revise your beliefs, based on your experiences and your reflection on these experiences, it is important to make them as accurate as possible. The more accurate your beliefs are, the better you are able to understand what is taking place and to predict what will occur in the future.

The beliefs you form vary tremendously in accuracy. The idea of *knowing* is the ability to distinguish beliefs supported by strong reasons or evidence from beliefs for which there is less support, as well as from beliefs disproved by evidence to the contrary (such as the belief that the earth is flat). This distinction between "believing" and "knowing" can be illustrated by replacing the word *believe* with the word *know* in statements. For example:

1. I *know* that I will die.
2. I *know* that there is life on other planets.
3. I *know* that working hard will lead me to a happy life.
4. I *know* that the earth is flat.

The only statement with which most people would agree it clearly makes sense to use the word *know* is the first one because there is conclusive evidence that this belief is accurate. In the case of statement 2, we might say that, although life on other planets is a possibility, there does not seem to be *conclusive* evidence at present that supports this view. In the case of statement 3, we might say that, although for some people working hard leads to a happy life, this is not always the case. Statement 4 expresses a belief that we "know" is *not* true. In other words, when you say that "you know" something, you mean at least two different things:

1. I think this belief is completely accurate.
2. I can explain to you the reasons or evidence that support this belief.

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If either of these standards is not met, we would usually say that you do not really "know." Or to state it another way, "You can *believe* what is not so, but you cannot *know* what is not so."

We work at evaluating the accuracy of our beliefs by examining the reasons or evidence that support them (known as the *justification* for the beliefs). As you learn more about the world and yourself, you try to form beliefs that are increasingly accurate and justified.

Determining the accuracy and justification of your beliefs is challenging. The key point is that as a critical thinker, you should continually try to form and revise your beliefs so that you can understand the world in increasingly effective ways. Even when you find that you maintain certain beliefs over a long period of time, your explorations will result in a deeper and fuller understanding of these beliefs.

Thinking Activity 5.1

EVALUATING THE ACCURACY OF BELIEFS

State whether you think that each of the following beliefs is

- *Completely accurate* (so that you would say, "I know this is the case")
- *Generally accurate* but not completely accurate (so that you would say, "This is often, but not always, the case")
- *Generally not accurate* but sometimes accurate (so that you would say, "This is usually not the case but is sometimes true")
- *Definitely not accurate* (so that you would say, "I know that this is not the case")

After determining the *degree of accuracy* in this way, explain why you have selected your answer.

- *Example:* I believe that if you study hard, you will achieve good grades.
- *Degree of accuracy:* Generally, but not completely, accurate.
- *Explanation:* Although many students who study hard achieve good grades, this is not always true. Sometimes students have difficulty understanding the work in a certain subject, no matter how hard they study. And sometimes they just don't know how to study effectively. In other cases, students may lack adequate background or experience in a certain subject area (for example, English may be a second language), or they may have a personality conflict with the instructor.

1. I believe that essay exams are more difficult than multiple-choice exams.
2. I believe that longer prison sentences discourage people from committing crimes.
3. I believe that there are more people on the earth today than there were 100 years ago.
4. I believe fate plays an important role in determining life's events.

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5. I believe that people have the freedom to change themselves and their circumstances if they really want to.

Now write some of your most important beliefs on the following subjects and evaluate them in the same way:

- love
- happiness
- physical health
- religion

Knowledge and Truth

Most people in our culture are socialized to believe that knowledge and truth are absolute and unchanging. One major goal of social institutions, including family, the school system, and religion, is to transfer the knowledge that has been developed over the ages. Under this model, the role of learners is to absorb this information passively, like sponges. As you have seen in this text, achieving knowledge and truth is a complicated process. Instead of simply relying on the testimony of authorities like parents, teachers, textbooks, and religious leaders, critical thinkers have a responsibility to engage *actively* in the learning process and participate in developing their own understanding of the world.

The need for this active approach to knowing is underscored by the fact that authorities often disagree about the true nature of a given situation or the best course of action. It is not uncommon, for example, for doctors to disagree about a diagnosis, for economists to differ on the state of the economy, for researchers to present contrasting views on the best approach to curing cancer, for psychiatrists to disagree on whether a convicted felon is a menace to society or a harmless victim of social forces, and for religions to present conflicting approaches to achieving eternal life.

What do we do when experts disagree? As a critical thinker, you must analyze and evaluate all the available information, develop your own well-reasoned beliefs, and recognize when you don't have sufficient information to arrive at well-reasoned beliefs. You must realize that these beliefs may evolve over time as you gain information or improve your insight.

Although there are compelling reasons to view knowledge and truth in this way, many people resist it. Either they take refuge in a belief in the absolute, unchanging nature of knowledge and truth, as presented by the appropriate authorities, or they conclude that there is no such thing as knowledge or truth and that trying to seek either is a futile enterprise. Some beliefs *are* better than others, not because an authority has proclaimed them so but because they can be analyzed in terms of the following criteria:

- How effectively do your beliefs *explain what is taking place?*
- To what extent are these beliefs *consistent with other beliefs* you have about the world?
- How effectively do your beliefs help you *predict what will happen* in the future?
- To what extent are your beliefs supported by *sound reasons and compelling evidence* derived from *reliable sources?*

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Another important criterion for evaluating your beliefs is that the beliefs are *falsifiable*. This means that you can state conditions—tests—under which the beliefs could be disproved and the beliefs nevertheless pass those tests. For example, if you believe that you can create ice cubes by placing water-filled trays in a freezer, it is easy to see how you can conduct an experiment to determine if your belief is accurate. If you believe that your destiny is related to the positions of the planets and stars (as astrologers do), it is not clear how you can conduct an experiment to determine if your belief is accurate. Because a belief that is not falsifiable can never be proved, such a belief is of questionable accuracy.

A critical thinker sees knowledge and truth as goals that we are striving to achieve, processes that we are all actively involved in as we construct our understanding of the world. Developing accurate knowledge about the world is often a challenging process of exploration and analysis in which our understanding grows and evolves over a period of time.

Stages of Knowing

The road to becoming a critical thinker is a challenging journey that involves passing through different Stages of Knowing in order to achieve an effective understanding of the world. These stages, ranging from simple to complex, characterize people's thinking and the way they understand their world. A critical thinker is a person who has progressed through all of the stages to achieve a sophisticated understanding of the nature of knowledge. This framework is based on the work of Harvard psychologist Dr. William Perry (*Forms of Intellectual and Ethical Development in the College Years: A Scheme*), who used in-depth research to create a developmental model of human thought. I use a condensed three-stage version of Perry's framework:

Stage 1: The Garden of Eden
Stage 2: Anything Goes
Stage 3: Thinking Critically

An individual may be at different stages simultaneously, depending on the subject or area of experience. For example, a person may be at an advanced stage in one area of life (academic work) but at a less sophisticated stage in another area (romantic relationships or conception of morality). In general, however, people tend to operate predominantly within one stage in most areas of their lives.

Stage 1: The Garden of Eden People in the Garden of Eden stage of thinking tend to see the world in terms of black and white, right and wrong. How do they determine what is right, what to believe? The "authorities" *tell* them. Just like in the biblical Garden of Eden, knowledge is absolute, unchanging, and in the sole possession of authorities. Ordinary people can never determine the truth for themselves; they must rely on the experts. If someone disagrees with what they have been told by the authorities, then that person *must* be wrong. There is no possibility of compromise or negotiation.

Who are the authorities? The first authorities we encounter are usually our parents. When parents are rooted in this stage of thinking, they expect children to do

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as they're told. Parents are the authorities, and the role of children is to benefit from their parents' years of experience, their store of knowledge, and their position of authority. Similarly, when children enter a school system built on the foundation of Stage 1 thinking (as most school systems are), they are likely to be told, "We have the questions and the answers; your role is to learn them, not ask questions of your own"—an approach that runs counter to children's natural curiosity.

People in this Garden of Eden stage of thinking become dissatisfied when they realize that they can't simply rely on authorities to tell them what to think and believe because in almost every arena—medicine, religion, economics, psychology, education, science, law, child-rearing—authorities often disagree with each other. We explored this disturbing phenomenon earlier in the chapter, and it poses a mortal threat to Stage 1 thinking. If the authorities disagree with each other, then how do we figure out what (and whom) to believe? Stage 1 thinkers try to deal with this contradiction by maintaining that *my* authorities know more than *your* authorities. But if we are willing to think clearly and honestly, this explanation simply doesn't hold up: We have to explain *why* we choose to believe one authority over another. And as soon as that happens, we have transcended Stage 1 thinking. Just as Adam and Eve could not go back to blind, uncritical acceptance of authority once they had tasted the fruit of the Tree of the Knowledge of Good and Evil, so it is nearly impossible to return to Stage 1 after recognizing its oversimplifying inadequacies.

Why are some people able to go beyond Stage 1 thinking while others remain more or less stuck there throughout their lives? Part of the answer lies in how diverse their environment is. When people live in predominantly homogeneous environments, surrounded by people who think and believe the same way, it is much easier to maintain the artificially uniform worldview of the Garden of Eden thinking.

However, when people are exposed to diverse experiences that challenge them with competing perspectives, it is much more difficult to maintain the unquestioned faith in the authoritarian dictates of Stage 1 thinking. For example, in my philosophy of religion classes, the final term project is for students to visit five different places of religious worship selected from a list of thirty I provide; these range from Zen Buddhist to Pentecostal, Catholic to Southern Baptist, Jewish to Hindu. Students invariably report that this project transformed their thinking, stimulating them to view religion in a richer, more complex light. It gives them the opportunity to see other people who were just as serious and devout as themselves engage in very different religious practices.

However, simply providing people with diverse experiences does not guarantee that they will be stimulated to question and transcend the limiting confines of Stage 1 thinking. We need to have the emotional willingness to open ourselves to new possibilities and the intellectual ability to see issues from different perspectives. Very often people are so emotionally entangled in their point of view that they are simply unwilling to question its truth, and so the power of their emotional needs inhibits the potential illumination of their reasoning abilities. Additionally, many people have not developed the flexibility of thinking needed to extricate themselves from their own point of view and look at issues from different perspectives.

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To become a Stage 2 thinker, both of these conditions must be met: the emotional willingness *and* the cognitive ability to be open-minded.

Stage 2: Anything Goes Once one has rejected the dogmatic, authoritarian framework of Stage 1, the temptation in Stage 2 is to go to the opposite extreme and believe that anything goes. The reasoning is something like this: If authorities are not infallible and we can't trust their expertise, then no one point of view is ultimately any better than any other. In Stage 1 the authorities could resolve such disputes, but if their opinion is on the same level as yours and mine, then there is no rational way to resolve differences.

In the tradition of philosophy, such a view is known as *relativism:* the truth is relative to any individual or situation, and there is no standard we can use to decide which beliefs make the most sense. Take the example of fashion. You may believe that an attractive presentation includes loose-fitting clothing in muted colors, a natural hairstyle, and a minimum of makeup and jewelry. Someone else might prefer tight-fitting black clothing, gelled hair, tattoos, and body piercings. In Stage 2 thinking, there's no way to evaluate these or any other fashion preferences: They are simply "matters of taste." And, in fact, if you examine past photographs of yourself and what you considered to be "attractive" years ago, this relativistic point of view probably makes some sense.

Although we may be drawn to this seemingly open-minded attitude—anything goes—the reality is that we are often not so tolerant. We *do* believe that some appearances are more aesthetically pleasing than others. But there is an even more serious threat to Stage 2 thinking. Imagine the following scenario: As you are strolling down the street, you suddenly feel a gun pushed against your back accompanied by the demand for all your valuables. You protest, arguing with this would-be mugger that he has no right to your possessions. "On the contrary," your philosophically inclined mugger responds, "I believe that 'might makes right,' and since I have a weapon, I am entitled to your valuables. You have your beliefs, I have my beliefs, and as Stage 2 thinkers, there's no way for you to prove me wrong!" Preposterous? Nevertheless, this is the logical conclusion of Anything Goes thinking. If we truly believe this, then we cannot condemn *any* belief or action, no matter how heinous, and we cannot praise *any* belief or action, no matter how laudatory.

When we think things through, it's obvious that the Anything Goes level of thinking simply doesn't work because it leads to absurd conclusions that run counter to our deeply felt conviction that some beliefs *are* better than other beliefs. So while Stage 2 may represent a slight advance over Stage 1 in sophistication and complexity, it's clear to a discerning thinker that a further advance to the next stage is necessary.

Stage 3: Thinking Critically The two opposing perspectives of Stages 1 and 2 find their synthesis in Stage 3, Thinking Critically. When people achieve this level of understanding, they recognize that some viewpoints *are* better than other viewpoints, not simply because authorities say so but because *there are compelling reasons to support these viewpoints.* At the same time, people in this stage are open-minded toward other viewpoints,

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especially those that disagree with theirs. They recognize that there are often a number of legitimate perspectives on complex issues, and they accept the validity of these perspectives to the extent that they are supported by persuasive reasons and evidence.

Consider a more complicated issue, like euthanasia. A Stage 3 thinker approaches this as she approaches all issues: trying to understand all of the different viewpoints on the issue, evaluating the reasons that support each of these viewpoints, and then coming to her own thoughtful conclusion. When asked, she can explain the rationale for her viewpoint, but she also respects differing viewpoints that are supported by legitimate reasons, even though she feels her viewpoint makes more sense. In addition, a Stage 3 thinker maintains an open mind, always willing to consider new evidence that might convince her to modify or even change her position.

But while people in the Thinking Critically stage are actively open to different perspectives, they also *commit* themselves to definite points of view and are confident in explaining the reasons and evidence that have led them to their conclusions. Being open-minded is not the same thing as being intellectually wishy-washy. In addition to having clearly defined views, Stage 3 thinkers are always willing to listen to people who disagree with them. In fact, they actively seek out opposing viewpoints because they know that this is the only way to achieve the clearest, most insightful, most firmly grounded understanding. They recognize that their views may evolve over time as they learn more.

Becoming a Stage 3 thinker is a worthy goal, and it is the only way to adequately answer Socrates' challenge to examine our lives thoughtfully and honestly. To live a life of reflection and action, of open-mindedness and commitment, of purpose and fulfillment, requires the full development of our intellectual abilities and positive traits of character.

Stages of Knowing

Stage 1: The Garden of Eden
Knowledge is clear, certain, and absolute and is provided by authorities. Our role is to learn and accept information from authorities without question or criticism. Anyone who disagrees with the authorities must be wrong.

Stage 2: Anything Goes
Because authorities often disagree with each other, no one really "knows" what is true or right. All beliefs are of equal value, and there is no way to determine whether one belief makes more sense than another belief.

Stage 3: Thinking Critically
Some viewpoints *are* better than other viewpoints, not because authorities say so but because there are compelling reasons to support these viewpoints. We have a responsibility to explore every perspective, evaluate the supporting reasons for each, and develop our own informed conclusions that we are prepared to modify or change based on new information or better insight.

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Thinking Activity 5.2

WHAT STAGE OF KNOWING AM I IN?

1. Create a diagram to illustrate the three Stages of Knowing.
2. We all know people who illustrate each of these three Stages of Knowing. Think about the people in your life—professionally and personally—and identify which stage you think they mainly fall into.
3. Consider carefully your beliefs in each of the following areas, and evaluate in which of the three Stages of Knowing you predominantly think.

education	human nature
professional area of expertise	social relationships
science	child-rearing
moral issues	aesthetic areas (beauty)
religion	

Example: "My beliefs in the area of my academic classes tend to be Stage 1. I have always trusted the experts, whether they are my teachers or the textbooks we are reading. That's how I see the purpose of education: to learn the facts from those who know them." Or "My beliefs in my area of special interest, health, are Stage 3. When confronted with a set of symptoms, I consider all of the possible diagnoses, carefully evaluate the relevant evidence, get a second opinion if necessary, and then develop a plan that involves holistic and nutritional approaches as well as standard medical treatments."

Thinking Critically About Your Beliefs

The path to becoming a consistent Stage 3 thinker begins with evaluating the process you use to form beliefs and reach conclusions about the world. Some of your beliefs are deep and profound, with far-reaching implications, such as your belief (or disbelief) in a Supreme Being or your opinion on whether the Golden Rule should govern people's actions. Other beliefs are less significant, such as whether vitamin supplements improve your health or if requiring children to wear school uniforms is beneficial. Your total collection of beliefs constitutes your philosophy of life, the guiding beacon you use to chart the course of your personal existence. As you become a more accomplished critical thinker, you will develop beliefs that will enhance the quality of your life, beliefs that are clearly conceived, thoughtfully expressed, and solidly supported. This is the first step in constructing an enlightened philosophy, painting a portrait of yourself that you can present to the world with pride and satisfaction.

Everybody has a collection of beliefs that she or he uses to guide her or his actions. What differentiates people is the *quality* of their beliefs, the strength of the reasons and evidence that support their beliefs. As a critical thinker, you should be striving to develop beliefs constructed through a process of thoughtful reflection and analysis. For example, here is a brief survey of some beliefs that may contribute

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to your philosophy of life. Briefly answer the statements in the following activity and note how comfortable you would feel in justifying your answers as well as the paths you pursued to arrive at them.

Thinking Activity 5.3

SURVEYING YOUR BELIEFS

Answer the following questions, based on what you believe to be true:

1. Is there a God?
2. Should research on the cloning of humans continue?
3. Should women have the legal right to decide to have an abortion?
4. Should the government take all steps to keep our society safe from terrorism, even if this means curtailing some of our personal liberties?
5. Is the death penalty justified for some convicted murderers?
6. Should health care workers and potential patients be tested for AIDS and, if positive, be identified to each other?
7. Should the government provide public assistance to citizens who cannot support themselves and their families?
8. Should affirmative action programs be created to compensate for long-standing discrimination?
9. Have aliens visited earth in some form?
10. Should parents be permitted to refuse conventional medical care for their children if their religious beliefs prohibit it?
11. Should certain "recreational" drugs, such as marijuana, be legalized?
12. Should people with terminal illnesses be permitted to end their lives with medical assistance, such as that provided by Dr. Jack Kevorkian?

Thinking Critically About Evaluating Evidence

Authorities: Are the authorities knowledgeable in this area? Are they reliable? Have they ever given inaccurate information? Do other authorities disagree?

Written references: What are the credentials of the authors? Are there others who disagree with their opinions? On what evidence do the authors base their opinions?

Factual evidence: What are the source and foundation of the evidence? Can the evidence be interpreted differently? Does the evidence support the conclusion?

Personal experience: What were the circumstances under which the experience took place? Were distortions or mistakes in perception possible? Have other people had either similar or conflicting experiences? Are there other explanations for the experience?

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Critical thinkers continually evaluate their beliefs by applying intellectual standards to assess the strength and accuracy of these beliefs. *Un*critical thinkers generally adopt beliefs without thoughtful scrutiny or rigorous evaluation, letting these beliefs drift into their thinking for all sorts of superficial and illogical reasons. The most effective way for you to test the strength and accuracy of your beliefs is to evaluate evidence that supports them. There are four categories of evidence: authorities, written references, factual evidence, and personal experience.

Now you may be thinking, "Will I be called upon to apply this structure—these thinking tools—to every situation?" It may be overly optimistic to expect that we can take time out to step back and evaluate all our situations this way, especially because we already feel so overburdened and overextended. However, it is precisely because of this that we need to put on the brakes, or we risk losing ourselves in the frenetically accelerated flow of today's culture. What you are learning from these and additional exercises is a way of approaching both small and large questions differently from the way you did before. By recognizing the need to impose these intellectual standards, you will eventually use them habitually.

Thinking Activity 5.4

EVALUATING MY BELIEFS

1. Select several of your responses to the Belief Survey (Thinking Activity 5.3 on page 172), and explain the reasons, evidence, and experiences that led you to your conclusions. Be specific.
2. After you have recorded your evidence, use the questions under "Thinking Critically About Evaluating Evidence" to assess its accuracy and strength.

EXAMPLE: I believe that aliens have visited the earth in some form.
EXPLANATION: I have read a great deal about eyewitness sightings and evidence of a government cover-up, and I have met people who believe they have seen unidentified flying objects (UFOs).

REASONS/EVIDENCE:

- *Authorities:* Many reputable people have seen UFOs and had personal encounters with aliens. The government has documented these in secret files, which include the UFO crash at Roswell, New Mexico, in 1947. Government attempts at concealment and cover-up have been transparent.
- *References:* There are many books supporting alien visitations and alien abductions.
- *Factual evidence:* There are many photographs of UFOs and eyewitness accounts from people who have seen alien spacecraft. There have also been accounts of alien abductions. In addition, the movie *Alien Autopsy* purportedly shows an alien being dissected.
- *Personal experience:* I have personally spoken to several people who are convinced that they saw things in the sky that looked like flying saucers.

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Visual Thinking

"I Knew That Aliens Existed!"

Examine the faces and body language of people in the photo. Do you think they believe that this "alien" corpse is real? Do you think it might be real? Do you believe that alien life has visited earth? Why or why not?

Let's examine the process of critical evaluation by thinking through a sample belief: "I believe that aliens have visited the earth in some form." A recent Gallup Poll found that 42 percent of American college graduates believe that flying saucers have visited the earth in some form.

Reasons/Evidence

Authorities

Many reputable people have seen UFOs and had personal encounters with aliens. The government has documented these in secret files, which include the UFO crash at Roswell, New Mexico, in 1947. Government attempts at concealment and cover-up have been transparent.

Thinking Critically About Authorities: Although there are many individuals who have testified about the existence of alien encounters over the years, almost all scientific authorities have been extremely skeptical. They emphasize that all of the "evidence" is unsubstantiated, controversial, indirect, and murky—the markings of pseudoscientific fantasies. If aliens and UFOs exist, why haven't they announced their

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presence in an incontrovertible fashion? Some of the most intriguing evidence comes in the form of the government's belated and somewhat bizarre explanations for UFO sightings and the alleged Roswell incident. On June 25, 1997, the Air Force announced that the mysterious happenings in the New Mexico desert in the late 1940s and 1950s were in fact experiments involving crash dummies and weather balloons. Six weeks later, on August 3, 1997, the CIA "admitted" that the U.S. government had lied about alleged UFO sightings in the 1950s and 1960s to protect classified information regarding top-secret spy planes, the U-2 and SR-71. Why did the government suddenly attempt to explain these mysteries after all these years? And why does there appear to be contradictory testimony from different parts of the government? Why do the government explanations seem almost as fanciful and farfetched as the UFO stories?

References

There are many books supporting alien visitations and alien abductions.

Thinking Critically About References: Although many books regarding UFOs have been written, few have been more than unsubstantiated speculation. Philip J. Corso, who served on the National Security Council under President Dwight D. Eisenhower, contended in his book *The Day After Roswell* (Pocket Books, 1997) that he personally directed an army project that transferred to the military various types of technology recovered from the alien ship that crashed in the desert. To date, efforts to prove or disprove his account have been inconclusive. After reviewing written accounts and interviewing people claiming to be alien abductees, Dr. John Mack, a psychiatry professor at Harvard Medical School, came to the conclusion that many of these reports are true. Though he was harshly criticized by his colleagues, Dr. Mack became instantly popular on the UFO circuit, and he convened a conference at which 200 mental health professionals gathered to discuss alien abductions.

Factual Evidence

There are many photographs of UFOs and eyewitness accounts from people who have seen alien spacecraft. There have also been accounts of alien abductions. In addition, the movie *Alien Autopsy* purportedly shows an alien being dissected.

Thinking Critically About Factual Evidence: There have been innumerable UFO sightings, many of which can be explained by the presence of aircraft in the vicinity, meteors, or some other physical event. However, there is a core of sightings, sometimes by large groups of reputable people, that have not been satisfactorily explained. There are a number of photographs of "flying saucers" taken at a considerable distance, and though provocative in their possibilities, they are inconclusive. Most reports of alien abductions have been considered by the scientific establishment to be hoaxes or the result of mental illness or hallucinations—at least until Dr. Mack's

(continued on page 178)

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Thinking Critically About Visuals

Propaganda: Undermining Knowledge and Questioning Beliefs

The word *propaganda* comes from the same Latin root as *propagate*, and means simply to grow and spread knowledge. Propaganda, especially visual, has traditionally been produced by governments at times of war; during the First World War the United States government had a "Division of Pictorial Publicity" that commissioned works by American artists to help persuade the American people to support the country's first appearance on the stage of a global conflict. This painting, entitled "Lest Liberty Perish," was created by the artist Joseph Pennell in 1918. The idea of New York City being "bombed, shot down, burning, blown up by the enemy" was technologically impossible at the time, yet the image was compelling enough to be reprinted countless times across the country in an effort to raise money (in "war bonds") to support America's troops.

In 1918, the idea of a firebomb attack on New York City was the stuff of science fiction. How might this image be used after 2001 for purposes of propaganda? What, in your view, is the role of accuracy in the ethics of propaganda? Does it matter that this painting does not depict an actual event, if the artist's goal was to stir emotions rather than promote critical thinking?

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Since the beginning of the twentieth century, as the media has become infinitely more sophisticated and available, the term *propaganda* has taken on an almost exclusively negative connotation: to spread rumors and hearsay; to undermine morale; to demonize the enemy. This poster is an example of both remixed media and political satire.

Is there a "Ministry of Homeland Security" in the United States? What other clues does this image give you to indicate it is an example of satire? Think of a television show like *The Daily Show with Jon Stewart* or *The Colbert Report*. How does satire use knowledge to undermine belief? What critical thinking skills do you use to determine if a program or publication is satirical in its intent?

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analysis noted previously. Medical experts and moviemakers have derided *Alien Autopsy* as a crude hoax, although a small number of people knowledgeable about physiology and movie-making techniques find it persuasive. There is no documented history of where the film came from, a fact that undermines its credibility.

Personal Experience

I have personally spoken to several people who are convinced that they saw things in the sky that looked like flying saucers.

Thinking Critically About Personal Experience: The perceptions of eyewitness testimony are notoriously unreliable. People consistently mistake and misinterpret what they experience and often see what they want to see. In evaluating the testimony of personal experience, we must establish independent confirmation.

Using Perspective-Taking to Achieve Knowledge

In Chapter 4, we examined contrasting media accounts of the assassination of Malcolm X. Each account, we found, viewed the event through its own perceiving lenses, which shaped and influenced the information the writer selected, the way the writer organized it, his or her interpretations of the event and the people involved, and the language used to describe it. We can see now that this type of organized evaluation of contrasting sources and opinions—perspective-taking—is an essential strategy of Stage 3 thinking and one of the most powerful ways to construct well-supported beliefs and genuine knowledge. The following activity, which centers on the events at Tiananmen Square in 1989 involving mainly Chinese college students, provides another opportunity to engage in perspective-taking as part of critical thinking.

Thinking Activity 5.5

ANALYZING DIFFERENT ACCOUNTS OF THE CONFRONTATION AT TIANANMEN SQUARE

In the spring of 1989, a vigorous prodemocracy movement erupted in Beijing, the capital of China. Protesting the authoritarian control of the Communist regime, thousands of students staged demonstrations, engaged in hunger strikes, and organized marches involving hundreds of thousands of people. The geographical heart of these activities was the historic Tiananmen Square, taken over by the demonstrators who had erected a symbolic "Statue of Liberty." On June 4, 1989, the fledgling prodemocracy movement came to a bloody end when the Chinese army entered Tiananmen Square and seized control of it. The following are various accounts of this event from different sources. After analyzing these accounts, construct your own version of what you believe took place on that day. Use these questions to guide your analysis of the varying accounts:

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- Does the account provide a convincing description of what took place?
- What reasons and evidence support the account?
- How reliable is the source? What are the author's perceiving lenses, which might influence his or her account?
- Is the account consistent with other reliable descriptions of this event?

Several Accounts of Events at Tiananmen Square, 1989

The *New York Times* (June 4, 1989)

Tens of thousands of Chinese troops retook the center of the capital from prodemocracy protesters early this morning, killing scores of students and workers and wounding hundreds more as they fired submachine guns at crowds of people who tried to resist. Troops marched along the main roads surrounding central Tiananmen Square, sometimes firing in the air and sometimes firing directly at crowds who refused to move. Reports on the number of dead were sketchy. Students said, however, that at least 500 people may have been killed in the crackdown. Most of the dead had been shot, but some had been run over by personnel carriers that forced their way through the protesters' barricades.

A report on the state-run radio put the death toll in the thousands and denounced the government for the violence, the Associated Press reported. But the station later changed announcers and broadcast another report supporting the governing Communist party. The official news programs this morning reported that the People's Liberation Army had crushed a "counterrevolutionary rebellion." They said that more than 1,000 police officers and troops had been injured and some killed, and that civilians had been killed, but did not give details.

Deng Xiaoping, Chairman of the Central Military Commission, as Reported in *Beijing Review* (July 10–16, 1989)

The main difficulty in handling this matter lay in that we had never experienced such a situation before, in which a small minority of bad people mixed with so many young students and onlookers. Actually, what we faced was not just some ordinary people who were misguided, but also a rebellious clique and a large number of the dregs of society. The key point is that they wanted to overthrow our state and the Party. They had two main slogans: to overthrow the Communist Party and topple the socialist system. Their goal was to establish a bourgeois republic entirely dependent on the West.

Excerpts from "Square Is Cleared" and "Beijing Death Toll at Least 300; Army Tightens Control of City but Angry Resistance Goes On," by Nicholas D. Kristoff, *The New York Times*, June 4/June 5, 1989. Copyright © 1989 by The New York Times Co. Reprinted by permission.

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During the course of quelling the rebellion, many comrades of ours were injured or even sacrificed their lives. Some of their weapons were also taken from them by the rioters. Why? Because bad people mingled with the good, which made it difficult for us to take the firm measures that were necessary. Handling this matter amounted to a severe political test for our army, and what happened shows that our People's Liberation Army passed muster. If tanks were used to roll over people, this would have created a confusion between right and wrong among the people nationwide. That is why I have to thank the PLA officers and men for using this approach to handle the rebellion. The PLA losses were great, but this enabled us to win the support of the people and made those who can't tell right from wrong change their viewpoint. They can see what kind of people the PLA are, whether there was bloodshed at Tiananmen, and who were those that shed blood.

This shows that the people's army is truly a Great Wall of iron and steel of the Party and country. This shows that no matter how heavy the losses we suffer and no matter how generations change, this army of ours is forever an army under the leadership of the Party, forever the defender of the country, forever the defender of socialism, forever the defender of the public interest, and they are the most beloved of the people. At the same time, we should never forget how cruel our enemies are. For them we should not have an iota of forgiveness.

Reporter (Eyewitness Account), Reported in the *New York Times* (June 4, 1989)

Changan Avenue, or the Avenue of Eternal Peace, Beijing's main east-west thoroughfare, echoed with screams this morning as young people carried the bodies of their friends away from the front lines. The dead or seriously wounded were heaped on the backs of bicycles or tricycle rickshaws and supported by friends who rushed through the crowds, sometimes sobbing as they ran.

The avenue was lit by the glow of several trucks and two armed personnel carriers that students and workers set afire, and bullets swooshed overhead or glanced off buildings. The air crackled almost constantly with gunfire and tear gas grenades.

Students and workers tried to resist the crackdown, and destroyed at least sixteen trucks and two armored personnel carriers. Scores of students and workers ran alongside the personnel carriers, hurling concrete blocks and wooden staves into the treads until they ground to a halt. They then threw firebombs at one until it caught fire, and set the other alight after first covering it with blankets soaked in gasoline. The drivers escaped the flames, but were beaten by students. A young American man, who could not be immediately identified, was also beaten by the crowd after he tried to intervene and protect one of the drivers.

Clutching iron pipes and stones, groups of students periodically advanced toward the soldiers. Some threw bricks and firebombs at the lines of soldiers, apparently wounding many of them. Many of those killed were throwing bricks

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at the soldiers, but others were simply watching passively or standing at barricades when soldiers fired directly at them.

It was unclear whether the violence would mark the extinction of the seven-week-old democracy movement, or would prompt a new phase in the uprising, like a general strike. The violence in the capital ended a period of remarkable restraint by both sides, and seemed certain to arouse new bitterness and antagonism among both ordinary people and Communist Party officials for the Government of Prime Minister Li Peng.

"Our Government is already done with," said a young worker who held a rock in his hand, as he gazed at the army forces across Tiananmen Square. "Nothing can show more clearly that it does not represent the people." Another young man, an art student, was nearly incoherent with grief and anger as he watched the body of a student being carted away, his head blown away by bullets. "Maybe we'll fail today," he said. "Maybe we'll fail tomorrow. But someday we'll succeed. It's a historical inevitability."

Official Chinese Government Accounts

> "Comrades, thanks for your hard work. We hope you will continue with your fine efforts to safeguard security in the capital."
>
> —Prime Minister Li Peng (addressing a group of soldiers after the Tiananmen Square event)

> "It never happened that soldiers fired directly at the people."
>
> —General Li Zhiyun

> "The People's Liberation Army crushed a counterrevolutionary rebellion. More than 1,000 police officers and troops were injured and killed, and some civilians were killed."
>
> —Official Chinese news program

> "At most 300 people were killed in the operation, many of them soldiers."
>
> —Yuan Mu, official government spokesperson

> "Not a single student was killed in Tiananmen Square."
>
> —Chinese army commander

> "My government has stated that a mob led by a small number of people prevented the normal conduct of the affairs of state. There was, I regret to say, loss of life on both sides. I wonder whether any other government confronting such an unprecedented challenge would have handled the situation any better than mine did."
>
> —Han Xu, Chinese ambassador to the United States

The *New York Times* (June 5, 1989)

It was clear that at least 300 people had been killed since the troops first opened fire shortly after midnight on Sunday morning but the toll may be much higher.

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Word-of-mouth estimates continued to soar, some reaching far into the thousands. . . . The student organization that coordinated the long protests continued to function and announced today that 2,600 students were believed to have been killed. Several doctors said that, based on their discussions with ambulance drivers and colleagues who had been on Tiananmen Square, they estimated that at least 2,000 had died. Soldiers also beat and bayoneted students and workers after daybreak on Sunday, witnesses said, usually after some provocation but sometimes entirely at random. "I saw a young woman tell the soldiers that they are the people's army, and that they mustn't hurt the people," a young doctor said after returning from one clash Sunday. "Then the soldier shot her, and ran up and bayoneted her."

Xiao Bin (Eyewitness Account Immediately After the Event)

Tanks and armored personnel carriers rolled over students, squashing them into jam, and the soldiers shot at them and hit them with clubs. When students fainted, the troops killed them. After they died, the troops fired one more bullet into them. They also used bayonets. They were too cruel, I never saw such things before.

Xiao Bin (Account After Being Taken into Custody by Chinese Authorities)

I never saw anything. I apologize for bringing great harm to the party and the country.

Thinking Activity 5.6

ANALYZING DIFFERENT ACCOUNTS OF A CURRENT EVENT

Locate three different newspaper or magazine accounts of an important event—a court decision, a crime, and a political demonstration are possible topics. Analyze each of the accounts with the questions listed next, and then construct your own version of what you believe took place.

- Does the account provide a convincing description of what took place?
- What reasons and evidence support the account?
- How reliable is the source? What are the author's perceiving lenses, which might influence his or her account?
- Is the account consistent with other reliable descriptions of this event?

Beliefs Based on Indirect Experience

Until now, we have been exploring the way we form and revise beliefs based on our direct experiences. Yet no matter how much you have experienced in your life, the fact is that no one person's direct experiences are enough to establish an adequate

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set of accurate beliefs. We can only be in one place at one time—and with a limited amount of time at that. As a result, we depend on the direct experience of *other people* to provide us with beliefs and also to act as foundations for those beliefs. Consider the following questions. How would you go about explaining the reasons or evidence for your beliefs?

1. Were you really born on the day that you have been told you were?
2. Do germs really exist?
3. Do you have a brain in your head?
4. Does outer space extend infinitely in all directions?

In all probability, your responses to these questions reveal beliefs that are based on reasons or evidence beyond your direct experience. Of all the beliefs each one of us has, few are actually based on our direct experience. Instead, almost all are founded on the experiences of others, who then communicated to us these beliefs and the evidence for them in some shape or form. As you reach beyond your personal experience to form and revise beliefs, you find that the information provided by other people is available in two basic forms: written and spoken testimony.

It is crucial that you use all your critical-thinking abilities to examine what others suggest you believe. In critically examining the beliefs of others, you should pursue the same goals of accuracy and completeness that you seek when examining beliefs based on your personal experience. As a result, you should be interested in the reasons or evidence that support the information others are presenting. For example, when you ask directions from others, you try to evaluate how accurate the information is by examining the reasons or evidence that seems to support the information being given.

When you depend on information provided by others, however, there is a further question to be asked: How *reliable* is the person providing the information? For instance, what sort of people do you look for if you need to ask directions? Why do you look for these particular types of people? In most cases, when you need to ask directions, you try to locate someone who you think will be reliable—in other words, a person who you believe will give you *accurate* information.

During the remainder of this chapter, you will explore the various ways you depend on others to form and revise your beliefs. In each case you will try to evaluate the information being presented by asking the following questions:

1. How reliable (how accurate and justified) is the information?
2. How reliable is the *source* of the information?

How Reliable Are the Information and the Source?

One of the main goals of your thinking is to make sense of information, and there are key questions that you should ask when evaluating information being presented to you. As you saw in Chapter 4, each of us views the world through our own

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unique "lenses," which shape how we view the world and influence how we select and present information. Comparing different sources helps to make us aware of these lenses and highlights the different interests and purposes involved.

There are a variety of standards or criteria you can use to evaluate the reliability of the sources of information. The following criteria are useful for evaluating both written and spoken testimony.

- Was the source of the information able to make *accurate* observations?
- What do you know about the past *reliability* of the source of the information?
- How *knowledgeable* or experienced is the source of the information?

Thinking Activity 5.7

EVALUATING DIFFERENT PERSPECTIVES

Locate two different passages concerning the same topic, and then analyze each passage using the information evaluation questions in the box below. For example, you might choose two different reviews of a movie, a play, a book, an art exhibit, or a concert—or two different passages analyzing a topic of current interest, such as a criminal trial result or a U.S. foreign policy issue.

Information Evaluation Questions

1. How reliable is the information?
   a. What are the main ideas being presented?
   b. What reasons or evidence supports the information?
   c. Is the information accurate? Is there anything you believe to be false?
   d. Is there anything that you believe has been left out?

2. How reliable is the source of the information?
   a. What is the source of the information?
   b. What are the interests or purposes of the source of this information?
   c. How have the interests and purposes of the source of the information influenced the information selected for inclusion?
   d. How have these interests and purposes influenced the way this information is presented?

Was the Source of the Information Able to Make Accurate Observations? Imagine that you are serving as a juror at a trial in which two youths are accused of mugging an elderly person and stealing her social security check. During the trial the victim gives the following account of the experience:

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> I was walking into the lobby of my building at about six o'clock. It was beginning to get dark. Suddenly these two young men rushed in behind me and tried to grab my pocketbook. However, my bag was wrapped around my arm, and I just didn't want to let go of it. They pushed me around, yelling at me to let go of the bag. They finally pulled the bag loose and went running out of the building. I saw them pretty well while we were fighting, and I'm sure that the two boys sitting over there are the ones who robbed me.

In evaluating the accuracy of this information, you have to try to determine how reliable the source of the information is. In doing this, you might ask yourself whether the person attacked was in a good position to make accurate observations. In the case of this person's testimony, what questions could you ask in order to evaluate the accuracy of the testimony?

> EXAMPLE: How sharp is the person's eyesight? (Does she wear glasses? Were the glasses knocked off in the struggle?)

When trying to determine the accuracy of testimony, you should try to use the same standards you would apply to yourself if you were in a similar situation. You would ask yourself questions: Was there enough light to see clearly? Did the excitement of the situation influence my perceptions? Were my senses operating at full capacity?

As you work toward evaluating the reliability of the source of the information, it is helpful to locate whatever additional sources of information are available. For instance, if you can locate others who can identify the muggers, or if stolen items were found in their possession, this will serve as evidence to support the testimony given by the witness.

Finally, accurate observations depend on more than how well your senses are functioning. Accurate observations also depend on how well you understand the personal factors (your "lenses") you or someone else brings to a situation. These personal feelings, expectations, and interests often influence what you are perceiving without your being aware of it. Once you become aware of these influencing factors, you can attempt to make allowances for them in order to get a more accurate view of what is taking place. For example, imagine that you and your friends have sponsored an antiracism rally on your college campus. The campus police estimate the crowd to be 250, while your friends who organized the rally claim it was more than 500. How could you determine the reliability of your friends' information? What questions could you ask them to help clarify the situation? How could you locate additional information to gain a more accurate understanding of the situation?

What Do You Know About the Past Reliability of the Source of the Information?

As you work at evaluating the reliability of sources, it is useful to consider how accurate and reliable their information has been in the past. If someone you know has consistently given you sound information over a period of time, you gradually develop confidence in the accuracy of that person's reports. Police officers and newspaper

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reporters must continually evaluate the reliability of information sources. Over time, people in these professions establish information sources who have consistently provided reliable information. Of course, this works the other way as well. When people consistently give you inaccurate or incomplete information, you gradually lose confidence in their reliability and in the reliability of their information.

Nevertheless, few people are either completely reliable or completely unreliable in the information they offer. You probably realize that your own reliability tends to vary, depending on the situation, the type of information you are providing, and the person you are giving the information to. Thus, in trying to evaluate the information offered by others, you have to explore each of these different factors before arriving at a provisional conclusion, which may then be revised in the light of additional information.

How Knowledgeable or Experienced Is the Source of the Information? A further step in evaluating information is to determine how knowledgeable or experienced the person is in that particular area. When you seek information from others, you try to locate people who you believe will have a special understanding of the area in which you are interested. When asking directions, you look for a police officer, a cab driver, or a resident. When your car begins making strange noises, you search for someone who has knowledge of car engines. In each case, you try to identify a source of information who has special experience or understanding of a particular area because you believe that this person will be reliable in giving you accurate information. Of course, there is no guarantee that the information will be accurate, even when you carefully select knowledgeable sources. By seeking people who are experienced or knowledgeable rather than those who are not, however, you increase your chances of gaining accurate information. For example, suppose you are interested in finding out more information about the career you are planning to pursue. Who are some of the people you would select to gain further information? What are the reasons you would select these people? Are these sound reasons?

In seeking information from others whom you believe to be experienced or knowledgeable, it is important to distinguish between the opinions of "average" sources, such as ourselves, and the opinions of experts. Experts are people who have specialized knowledge in a particular area, based on special training and experience. Who qualifies as an expert? Someone with professional expertise as certified by the appropriate standards qualifies as an expert. For instance, you do not want someone working on your teeth just because he or she has always enjoyed playing with drills or is fascinated with teeth. Instead, you insist on someone who has graduated from dental college and has been professionally certified.

It is also useful to find out how up-to-date the expert's credentials are. If practitioners have not been keeping abreast of developments in their field, they will have gradually lost their expertise, even though they may have an appropriate diploma. For example, identify some experts whose information and services you rely on. How could you learn if their expertise is still up-to-date and effective?

You should also make sure that the experts are giving you information and opinions in their field of expertise. It is certainly all right for people like Tiger Woods or Julia

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Roberts to give their views on a product, but you should remember that they are speaking simply as human beings (and ones who have been paid a large sum of money and told exactly what to say), not as scientific experts. This is exactly the type of mistaken perception encouraged by advertisers who want to sell their products. For example, identify two "experts" in television or magazine advertising who are giving testimony *outside* their fields of expertise. Why do you think they were chosen for the particular products they are endorsing? Do you trust such expertise in evaluating the products?

Finally, you should not accept expert opinion without question or critical examination, even if the experts meet all the criteria that you have been exploring. Just because a mechanic assures you that your car needs a new transmission for $900 does not mean that you should accept that opinion at face value. Or simply because one doctor assures you that surgery is required for your ailment does not mean that you should stop investigating further. In both cases, seeking a second (or even third) expert opinion makes sense.

Evaluating Online Information

The Internet is an incredibly rich source of information on almost every subject that exists. But it's important to remember that information is not knowledge. Information doesn't become *knowledge* until we think critically about it. As a critical thinker, you should never accept information at face value without first establishing its accuracy, evaluating the credibility of the source, and determining the point of view or bias of the source. These are issues that we will explore throughout this book, but for now you can use the checklist on pages 188–189 to evaluate the information on the Internet—and other sources as well.

Before You Search

The first stage of evaluating Web sources should happen before you search the Internet! Ask yourself what you are looking for. If you don't know what you're looking for, you probably won't find it! You might want

narratives
facts
opinions
photographs or graphics
arguments
statistics
eyewitness reports

Do you want new ideas, support for a position you already hold, or something entirely different? Once you decide, you will be better able to evaluate what you find on the Web.

Choose Sources Likely to Be Reliable

Ask yourself, "What sources (or what kinds of sources) would be most likely to give me the kind of reliable information I'm looking for?" Some sources are more likely than others to

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be fair	lack hidden motives
be objective	show quality control

Sometimes a site's address (or uniform resource locator [URL]) suggests its reliability or its purpose. Sites ending in

- .edu indicate educational or research material.
- .gov indicate government resources.
- .com indicate commercial products or commercially sponsored sites.

"\\7,126\\NAME" in a URL may indicate a personal home page without a recognized affiliation.

Keep these considerations in mind; don't just accept the opinion of the first sources you locate.

Checklist for Evaluating the Quality of Internet Resources

Criterion 1: Authority

- ❑ Is it clear who sponsors the page and what the sponsor's purpose is in maintaining the page? Is there a respected, well-known organizational affiliation?
- ❑ Is it clear who wrote the material and what are the author's qualifications for writing on this topic?
- ❑ Is there a way of verifying the legitimacy of the page's sponsor? In particular, is there a phone number or postal address to contact for more information? (An email address alone is not enough.)
- ❑ If the material is protected by copyright, is the name of the copyright holder given? Is there a date of page creation or version?
- ❑ *Beware!* Avoid anonymous sites and affiliations that you've never heard of or that can't be easily checked.

Criterion 2: Accuracy

- ❑ Are the sources for any factual information clearly listed so they can be verified by another source?
- ❑ Has the sponsor provided a link to outside sources (such as product reviews or reports filed with the Securities and Exchange Commission [SEC]) that can be used to verify the sponsor's claims?
- ❑ Is the information free of grammatical, spelling, and other typographical errors? (These kinds of errors not only indicate a lack of quality control but can actually produce inaccuracies in information.)
- ❑ Are statistical data in graphs and charts clearly labeled and easy to read?

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- ❑ Does anyone monitor the accuracy of the information being published?
- ❑ *Beware!* Avoid unverifiable statistics and claims not supported by reasons and evidence.

Criterion 3: Objectivity

- ❑ For any given piece of information, is it clear what the sponsor's motivation is for providing it?
- ❑ Is the information content clearly separated from any advertising or opinion content?
- ❑ Is the point of view of the sponsor presented in a clear manner, with his or her arguments well supported?
- ❑ *Beware!* Avoid sites offering "information" in an effort to sell a product or service, as well as sites containing conflicts of interest, bias and one-sidedness, emotional language, and slanted tone.

Criterion 4: Currentness

- ❑ Are there dates on the page to indicate when the page was written, first placed on the Web, and last revised?
- ❑ Are there any other indications that the material is kept current?
- ❑ If material is presented in graphs or charts, is there a clear statement about when the data were gathered?
- ❑ Is there an indication that the page has been completed and is not still in the process of being developed?
- ❑ *Beware!* Avoid sites that lack any dates, sources, or references.

Thinking Passage

PLATO'S ALLEGORY OF THE CAVE: THE JOURNEY FROM PERCEPTION TO KNOWLEDGE

You can view your efforts to think critically about what you are perceiving as an intellectual journey of discovery, one in which you continually attempt to interpret your experiences in more enlightened ways to attain knowledge and truth. More than 2,500 years ago, the Greek philosopher Plato explored the very same themes. In an effort to describe the path to intellectual enlightenment, he created a powerful metaphor that has become an important part of Western thinking: "The Allegory of the Cave." In the following section, philosopher Sonja Tanner relates this powerful allegory and explains how we can use it to understand our own personal quests to achieve knowledge and truth. After reading the section, complete the questions that follow.

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On Plato's Cave

by Sonja Tanner

In the seventh book of Plato's dialogue *The Republic*, he offers an image of education in which humans are likened to prisoners in a cave. To understand this fully, we can attempt to render this image.

> "Next, then," (Socrates) said, "make an image of our nature in its education and want of education, likening it to a condition of the following kind. See human beings as though they were in an underground cave-like dwelling with its entrance, a long one, open to the light across the whole width of the cave. They are in it from childhood with their legs and necks in bonds so that they are fixed, seeing only in front of them, unable because of the bond to turn their heads all the way around. Their light is from a fire burning far above and behind them. Between the fire and the prisoners there is a road above, along which we see a wall, built like the partitions puppet-handlers set in front of the human beings and over which they show the puppets."
>
> "I see," (Glaucon) said.
>
> "Then also see along this wall human beings carrying all sorts of artifacts, which project above the wall, and statues of men and other animals wrought from stone, wood, and every kind of material. . . ." (514a1–515a2, Allan Bloom, trans.)

We see persons at the bottom of a cave, chained so as to prevent them from leaving the cave and from turning around to see what is behind them. Positioned in this way, they can only watch the shadows projected onto the back wall of the cave,

Source: Sonja Tanner, "On Plato's Cave" is reprinted by kind permission of the author.

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by the passing of the artifacts in front of the fire. Behind the prisoners is a low wall which obscures the persons carrying these artifacts. This projection is like those we create around campfires, or in front of slide projectors, where a set of hands may look like a barking dog or a flying bird. A similar distortion takes place in the cave. Further up the cave is a fire and beyond that lies the cave's opening to the sunlight.

Having sketched what is happening within the cave literally, we must now try to interpret what this image means figuratively. When Glaucon remarks upon how strange these prisoners are, Socrates tells him that they are like us. How are we like these passive and helpless prisoners? Do we ever receive information or entertainment without thinking about where it actually comes from? Although Plato was writing over two thousand years before the invention of cathode ray tubes, the modern example of television may show us what he meant. If the projected images are analogous to those televised to us, then what might the persons behind the wall represent? Acting as filters of information, they might be seen as television networks, advertisers, or the media in general. They and their motivations for presenting information about the world to us through their particular perceptual lenses are obscured from view like the persons who pass behind the wall in the cave. As the chains prevent the prisoners from turning to see what is causing the images they watch, we are sometimes prevented by ignorance or uncritical thinking from recognizing the interests and persons served by the way in which information is presented to us. When we are unaware as to how perceptual lenses shape what it is we then believe, the information we receive and the beliefs we build upon this information may be distorted, like the shadows projected onto the wall. Many other persons shape the information we receive and the beliefs we hold. Authorities of all sorts fulfill this function—politicians, journalists, parents, teachers, writers and sometimes even ourselves.

Plato does not think us doomed to this unreflective state, however. Escape from the cave, though mysterious, is possible. Someone is apparently released from their bonds, turns around, and despite the confusion and pain from the dazzling light and arduous ascent, both of which they are unaccustomed to, is able to leave the cave. Just as when we leave a matinee movie and enter bright sunlight, we are at first dazzled and our eyes need a few moments to adjust to the light, the ascendant may experience disorientation or confusion upon first turning around. Turning from the shadows, this person discovers the objects causing these projections and the persons carrying them and, once outside the cave, the beings which these artifacts are made to resemble. The journey upwards is one of turning from images to their originals, ending ultimately in one's view of the sun itself, which, as the earth's source of heat and light, is a cause of all of the beings described in this allegory.

But how is escape from chains which bind at the neck and legs possible? Does someone release the prisoner and force him up into the light, and if so, who is this and why do they do it? Perhaps we are taking this image too literally in seeing this as a physical journey. Taking a cue from the aforementioned example in which

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the projections represent beliefs and information we take on uncritically, perhaps this journey is not physical but mental. The chains may signify ignorance and the uncritical taking over of secondhand opinions or beliefs and, as such, the chains themselves may even be self-imposed. Such an intellectual journey begins with a recognition that what we see and believe are only images, and by turning away from such appearances towards reality.

If the ascent is intellectual, rather than physical, a problem presents itself. Although Plato describes the release of a prisoner as though she or he were dragged up and out of the cave by the scruff of the neck, this type of force seems unlikely to guide an intellectual journey. Could one truly be forced or compelled to think independently? What else would motivate the journey? This is a particularly difficult question given the description of both ascent and return back into the cave as arduous, painful, and as subjecting one to derision and danger from the prisoners. What benefit could make good of undergoing such difficulties to leave the cave? We have been assuming here that the compulsion Plato describes as motivating the ascent is a force external to the ascendant, but internal forces motivate us as well. Why take the treacherous journey out of the cave? Perhaps simply because we *want* to. Our motivation upwards may be a desire for knowledge, as opposed to mere beliefs. If desire is the impetus for the ascent, this places responsibility for one's education squarely on the shoulders of the individual. We may have assistance, encouragement, and sometimes even external forces compelling us upwards, but ultimately, our success depends upon our own desire for knowledge and truth, and our willingness to give up what we are accustomed to—the passive life and familiar comforts of cave-dwelling—for the rewards of rational and grounded knowledge.

We are now able to locate ourselves on the trajectory of enlightenment. Looking at and discussing images are a first stage in education according to Plato and indeed that is precisely what we have done here thus far. The next step then seems to be turning away from the images we accept unreflectively and towards questions as to why we believe what we do, who or what are the sources of these beliefs, and how reliable are these sources, which can distinguish unfounded beliefs from substantiated knowledge. Maybe this ascent is undertaken by us on a regular basis, rather than simply once, in our lives.

Questions for Analysis

1. Create a diagram that illustrates Plato's cave allegory and exchange it with a classmate. Did you both understand the allegory in the summary?
2. Explain how the images projected on the back wall of Plato's cave are similar to the images we see on television or in newspapers, magazines, and books.
3. Why do the people in Plato's cave believe that the perceptual images they see projected on the wall are "real"? Why do many people who watch television and read information sources uncritically believe that what they are viewing or reading about is "real"?

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4. At the start of our journey from the dark depths of ignorance toward the illumination of understanding, it is essential to recognize that the perceptions we encounter in our daily lives are often incomplete, inaccurate, and distorted. Explain why.
5. In Plato's allegory, discarding ignorant beliefs and embracing the truth can be a disturbing process because we are forced to see things objectively, as they really are, rather than shrouded in bias and distortion. Describe an experience of your own in which achieving a knowledgeable, truthful insight was a disturbing experience.
6. Using the diagram you created for Question 1, identify the stage in Plato's allegory at which you would place yourself at this point in your life, and explain why. If you don't agree with Plato's framework, create a new diagram that illustrates your own ideas on the subject.

Final Thoughts

In this chapter we have explored the ways people form and revise beliefs. Your ability to think critically about your beliefs guides you in asking the questions necessary to explore, evaluate, and develop your beliefs. You use both direct and indirect experience to form and re-form your beliefs. As you evaluate beliefs based on your experience, you need to use the following criteria:

- How effectively do your beliefs *explain what is taking place?*
- To what extent are these beliefs *consistent with other beliefs* you have about the world?
- How effectively do your beliefs help you *predict what will happen* in the future?
- To what extent are your beliefs supported by *sound reasons and compelling evidence* derived from *reliable sources?*

Your indirect experiences are based on outside sources of information, both spoken and written. To evaluate critically these outside sources of information, you have to ask the following questions:

- How reliable (how accurate and justified) is the information?
- How reliable is the *source* of the information?

By thinking critically about the process by which you form and revise your beliefs about the world, you will be able to develop your understanding insightfully and creatively.

Thinking Activity 5.8

ANALYZING DIFFERENT ACCOUNTS OF THE DROPPING OF THE ATOM BOMB ON JAPAN

Chapter 4 emphasized the extent to which people's perceiving "lenses" shape and influence the way they see things, the conclusions they reach, and the decisions they make. Thinking critically involves becoming aware of these perceiving lenses and

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evaluating their validity when determining the accuracy of information and sources of information. One of the most powerful strategies for achieving this goal is to perform a comparative analysis of different perspectives. For example, one of the most controversial and still hotly debated events in U.S. history was our country's dropping of the atomic bomb on the Japanese cities of Hiroshima and Nagasaki. Although the bombings ended World War II, they killed over 100,000 civilians and resulted in radiation poisoning that affected many thousands more at that time and in subsequent generations. In 1995, the Smithsonian Institute planned an exhibit to commemorate the fiftieth anniversary of the bombings, but controversy over whether the perspective of the exhibit was unbalanced led to its cancellation and the resignation of the Air and Space Museum's director.

The following activity, developed by historian Kevin O'Reilly, presents two contrasting analyses of this event, each supported by historical documentation. After reviewing the two accounts, answer the questions that follow.

Was the United States Justified in Dropping Atomic Bombs on Japan?

Background Information

For the United States, World War II began with a sneak attack by Japanese planes on American naval forces at Pearl Harbor. The war was fought in Europe against the Germans and their allies, and in the Pacific against the Japanese. During the war the secret Manhattan Project was commissioned to develop an atomic bomb for the United States. Germany surrendered (May 1945) before the bombs were completed, but on August 6, 1945, a single atomic bomb destroyed Hiroshima, and on the ninth, another atomic bomb destroyed Nagasaki.

In this lesson two viewpoints are presented on the controversial use of the atomic bombs. Read and evaluate them according to the criteria of critical thinking. Consider the relevant information that follows the two viewpoints.

Historian A

Some historians argue that dropping atomic bombs on Japan was justified because it shortened the war, thus saving lives in the end. This view is wrong. The United States was not justified in dropping the bombs.

In the summer of 1945, the Japanese were almost totally defeated. American ships and planes pounded the island without any response by the Japanese. Leaders in Japan were trying to surrender and American leaders knew it. Several times the Japanese went to the Russians to ask them to mediate a peace settlement with the United States.[1] (It is not unusual for a country that wants to surrender to ask another country to speak for it at first and help negotiate a settlement.) There was only one condition that the Japanese insisted on—they wanted to keep their emperor, the symbol of Japanese culture. The United States never even talked with the Japanese about surrender terms—American leaders kept demanding unconditional surrender. After we used the bombs and the Japanese surrendered, we let them keep their emperor anyway. We could have allowed the Japanese to surrender earlier and saved all those lives obliterated by the bombs by letting them have their one condition in the first place.

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Visual Thinking

After the Bomb

What point of view is represented in this photo of the aftereffect of dropping the bomb on Japan? According to the historians' accounts you read here, and your own thoughts and opinions, what kinds of photos might result from other perspectives?

If the bombs were not used to bring about surrender, then why were they used? The plain truth is that they were used to scare Russia. In 1945 the United States disagreed with the Soviet Union in regard to Russia's actions in Europe. Our leaders felt that by showing the Russians we had a powerful weapon, we could get them to agree to our terms in Europe and Asia. As Secretary of War Stimson said in his diary, in diplomacy the bomb would be a "master card."[2]

President Truman had an important meeting scheduled with the Russian leader, Josef Stalin, at Potsdam, Germany, in July 1945. He wanted to have the bomb completed and successfully tested when he went into that meeting. Atomic scientist J. Robert Oppenheimer said, "We were under incredible pressure to get it [the bomb] done before the Potsdam meeting."[3] Truman hoped to have the bomb sticking out of his hip pocket, so to speak, when he negotiated with Stalin. Then he could make new demands of the Russians regarding eastern Europe. He told some of his friends at Potsdam before the final test, "If it explodes as I think it will, I'll certainly have a hammer on those boys."[4]

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While Truman was negotiating in Potsdam, the bomb was successfully tested in New Mexico, and he became more demanding with Stalin. Secretary of War Stimson stated, "He [Truman] said it [the bomb] gave him an entirely new feeling of confidence. . . ."[5]

But the Russians had to see the power of the bomb before the United States could intimidate them with it. This was accomplished at Hiroshima. Truman remarked, "This is the greatest thing in history!"[6]

A second motive for dropping the bomb was to end the war in Asia before the Russians could get involved. The Japanese were talking of surrender, but the United States wanted surrender within days, not a negotiated surrender taking weeks to complete. The Russians had agreed at Yalta to enter the war against Japan three months after the end of the war in Europe. This would be three months after May 9, or somewhere around August 9. If the Russians got involved in the war in Asia, they could spread Communism to China and other countries and possibly to Japan itself. American leaders did not want to see this happen.[7]

If the United States could speed up the Japanese surrender, we could avoid all these problems. We dropped the first bomb on August 6; Russia entered the war on the eighth, and we dropped the second bomb on the ninth. Don't these dates look suspicious? No country could surrender in only three days—it takes longer than that to make such an important decision. We would not wait longer because we wanted Japan to surrender before the Russians could get involved.

Some scientists who worked on the bomb recommended that it not be dropped on people. They proposed that the United States demonstrate the bomb's power to Japanese leaders by dropping it on an uninhabited island. American political leaders rejected this idea. The devastating effect of the bomb had to be shown by destroying a city.

Even top military leaders opposed the use of the atomic bomb.[8] The bomb would have little effect on the war, they argued, since the Japanese were already trying to surrender.

All this evidence shows that the atomic bombs were not used to end the war and save lives, but rather to scare the Russians and speed up the end of the war before Russian influence spread further into Asia. The killing of over 100,000 civilians in one country in order to scare the leaders of another country was wrong. The United States was not justified in dropping the atomic bombs.

Endnotes for Historian A

[1]Gar Alperovitz (a historian), *Atomic Diplomacy* (1965). (Direct quotations from *Foreign Relations Papers of the United States: Conference at Berlin,* Vol. II, pp. 1249, 1250, 1260, 1261.)

> "On July 17, the day of the first plenary session, another intercepted Japanese message showed that although the government felt that the unconditional surrender formula involved too great a dishonor, it was convinced that 'the demands of the times' made Soviet mediation to terminate the war absolutely essential.

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> Further cables indicated that the one condition the Japanese asked was preservation of 'our form of government.' A message of July 25 revealed instructions to the [Japanese] Ambassador in Moscow to go anywhere to meet with [Soviet Foreign Minister] Molotov during the recess of the Potsdam meeting so as to 'impress them with the sincerity of our desire' to terminate the war. He was told to make it clear that 'we should like to communicate to the other party [the United States] through appropriate channels that we have no objection to a peace based on the Atlantic Charter.' The only 'difficult point is the . . . formality of unconditional surrender.' "

James F. Byrnes (Secretary of State), *All in One Lifetime,* p. 297:

> "July 28: Secretary Forrestal arrived and told me in detail of the intercepted messages from the Japanese government to Ambassador Sato in Moscow, indicating Japan's willingness to surrender."

[2]Stimson (Secretary of War) Diary, May 15:

> "The trouble is that the President has now promised apparently to meet Stalin and Churchill on the first of July [at Potsdam] and at that time these questions will become burning and it may become necessary to have it out with Russia on her relations to Manchuria and Port Arthur and various other parts of North China, and also the relations of China to us. Over any such tangled web of problems the S-1 secret [the atomic bomb] would be dominant and yet we will not know until after . . . that meeting, whether this is a weapon in our hands or not. We think it will be shortly afterwards, but it seems a terrible thing to gamble with such big stakes in diplomacy without having your master card in your hand."

Leo Szilard (an atomic scientist who opposed use of the bombs on Japan), Conversation with Secretary of State Byrnes. Recorded on August 24, 1944, in Stewart to Bush, Atomic Energy Commission Document 200. Manhattan Engineering District—Top Secret, National Archives, Record Group 77, Box 7, folder 12; Box 14, folder 4:

> [Szilard argued that we should not use the bomb.]
>
> "Byrnes—Our possessing and demonstrating the bomb would make Russia more manageable in Europe."
>
> "Szilard—[The] interests of peace might best be served and an arms race avoided by not using the bomb against Japan, keeping it secret, and letting the Russians think that our work on it had not succeeded."
>
> "Byrnes—How would you get Congress to appropriate money for atomic energy research if you do not show results for the money which has been spent already?"

[3]Atomic Energy Commission, Oppenheimer Hearings, p. 31.
[4]Jonathan Daniels (biographer), *The Man of Independence* (1950), p. 266.
[5]*Foreign Relations Papers of the United States: Conference at Berlin,* 1945, Vol. II, p. 1361.

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Stimson Diary, July 22:

> "Churchill read Grove's report [on the successful testing of the atomic bomb in New Mexico] in full. . . . He said, 'Now I know what happened to Truman yesterday. I couldn't understand it. When he got to the meeting after having read this report he was a changed man. He told the Russians just where they got on and off and generally bossed the whole meeting.'"

[6]Harry S Truman, *Year of Decisions*, p. 421.
[7]Byrnes, *All in One Lifetime*, p. 300:

> "Though there was an understanding that the Soviets would enter the war three months after Germany surrendered, the President and I hoped that Japan would surrender before then."

Secretary of War Stimson stated in his diary on August 10, 1945, that he urged the President that:

> "The thing to do was to get this surrender through as quickly as we can before Russia should get down in reach of the Japanese homeland. . . . It was of great importance to get the homeland into our hands before the Russians could put in any substantial claim to occupy and help rule it."

[8]General Dwight Eisenhower, statement in "Ike on Ike," *Newsweek*, November 11, 1963, p. 107:

> "I voiced to him [Secretary of War Stimson] my grave misgivings, first on the basis of my belief that Japan was already defeated and that dropping the bomb was completely unnecessary and secondly, because I thought our country should avoid shocking world opinion by the use of a weapon whose employment was, I thought, no longer necessary as a measure to save American lives. It was my belief that Japan was, at the very moment, seeking some way to surrender with a minimum loss of 'face.' . . . It wasn't necessary to hit them with that awful thing."

Admiral W. D. Leahy, *I Was There* (1950), p. 441:

> "It was my opinion that the use of this barbarous weapon at Hiroshima and Nagasaki was of no material assistance in our war against Japan. The Japanese were already defeated and ready to surrender."

Air Force Chief of Staff LeMay, *New York Herald Tribune*, September 21, 1945:

> "The atomic bomb had nothing to do with the end of the war."

Historian B

Dropping atomic bombs on Hiroshima and Nagasaki helped the United States avoid a costly invasion of Japan. It therefore saved lives in the long run, which makes it a justifiable action.

It is true that the United States received some indication in the summer of 1945 that Japan was trying to surrender. Japan would not surrender unconditionally,

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however, and that was very important to the United States. The Germans had not surrendered unconditionally at the end of World War I and, as a result, they rose again to bring on World War II. The United States was not going to let that mistake happen again. As President Roosevelt said, "This time there will be no doubt about who defeated whom."[9]

Although the Japanese military situation in July 1945 was approaching total defeat, many Japanese leaders hoped for one last ditch victory in order to get softer peace terms.[10] One of their hopes was to divide the Grand Alliance by getting Russia (which was not at the time at war with Japan) to be the intermediary for peace negotiations. Maybe the Allies would begin to disagree, the Japanese militarists reasoned, and Japan would get off easy. Their other hope was that they could inflict enough casualties on the American troops, or hold out long enough, to get the American public to pressure their leaders to accept something less than unconditional surrender.[11]

Some historians argue that the only issue which prevented the Japanese from accepting unconditional surrender was their fear that the emperor would be removed by the Americans. American leaders, however, believed that allowing this one condition would encourage the militarists in Japan to further resistance. Americans also felt that it would weaken the war effort in the United States since we would be deviating from our well-publicized policy of unconditional surrender.[12]

Some Japanese leaders wanted much more, however, than just the one condition of keeping their emperor. They wanted their troops to surrender to them, and they wanted no occupation of Japan or war crimes trials of Japanese leaders. Even on August 9, after the bombing of Hiroshima and Nagasaki, and after the Russian declaration of war against them, the Japanese leaders still could not agree to surrender.[13] This shows that the bombs were necessary—anything less than the bombs or invasion would not have brought about unconditional surrender.

Some people believe that the dates of dropping the bombs (August 6 and 9) show that the United States dropped them to stop Russian entry into the war (August 8). There are two problems with this line of reasoning. First, the United States did not know the exact date of Russian entry. Second, the bombs were to be dropped when a military officer decided that the weather was right.[14] If Truman wanted to beat the Russians, why didn't he order the bombs to be dropped sooner, or why didn't he give in on unconditional surrender?

The argument that the United States dropped the bombs in order to threaten the Russians is also weak. The fact that we were so unsuccessful in getting the Russians to agree to our policies in Europe shows that the bomb was not used for that reason. It must have been used to shorten the war. It certainly did not scare the Russians.

Some American scientists opposed using the bomb on civilian or military targets, preferring to demonstrate it on an uninhabited island. This recommendation was studied carefully by a committee (the Interim Committee) set up to consider how to use the bomb. The committee said that a demonstration could have had a lot of problems, which would have wasted one of the bombs and precious time. In light of the fact that it took two bombs dropped on cities to bring about a surrender, the

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demonstration idea does not seem like it would have been effective. The committee recommended the bombs be used against military targets.[15]

It is important to remember that on July 26, 1945, the United States warned the Japanese that we would use the atomic bomb against them unless they accepted unconditional surrender.[16] The fanatical Japanese leaders would not give in. They said they would ignore the warning.[17] Thus, the loss of life from atomic bombings was the responsibility of the Japanese leaders, not the Americans.

The United States was right in insisting on unconditional surrender. Since the Japanese would not surrender unconditionally, and since a demonstration bombing would not have been effective, the only alternative to using the atomic bombs was continuing the war. This would have cost hundreds of thousands more lives. In the long run, the use of the atomic bombs on Hiroshima and Nagasaki shortened the war and saved lives.

Endnotes for Historian B

(All are quotes from the sources cited except bracketed portions.)

[9]President Roosevelt at a press conference, *F.D.R.: Public Papers of the Presidents,* Vol. XIII, p. 210:

> "Practically all Germans deny the fact they surrendered in the last war, but this time they are going to know it. And so are the Japs."

[10]*Command Decisions* (a history of World War II), p. 504, quotes a study done by Brigadier General George A. Lincoln, June 4, 1945:

> "In allied intelligence Japan was portrayed as a defeated nation whose military leaders were blind to defeat . . . Japan was still far from surrender. She had ample reserves of weapons and ammunition and an army of 5,000,000 troops, 2,000,000 of them in the home islands. . . . In the opinion of the intelligence experts, neither blockade nor bombing alone would produce unconditional surrender before the date set for invasion [November 1945]. And the invasion itself, they believed, would be costly and possibly prolonged."

[11]*Command Decisions,* p. 517:

> "The militarists [in the Japanese government] could and did minimize the effects of the bomb, but they could not evade the obvious consequences of Soviet intervention, which ended all hope of dividing their enemies and securing softer peace terms."

[12]*Command Decisions,* pp. 512–513, summarizing former Secretary of State Cordell Hull, *Memoirs,* Vol. II, p. 1593:

> "[Cordell] Hull's view . . . was the proposal [by Secretary of War Stimson to let the Japanese keep the Emperor] smacked of appeasement. . . . The proposal to retain the imperial system might well encourage resistance [by the Japanese] and have 'terrible political repercussions' in the United States."

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[13]Robert Butow (a historian), *Japan's Decision to Surrender* (1959), pp. 161, 163, 164. (Describing the debate among the six Japanese leaders about whether to surrender, August 9, 1945.)

> "While Suzuki [Prime Minister], Togo [Foreign Minister] and Yonai [Navy Minister] were committed in varying degrees to an outright acceptance [of the Potsdam Declaration demanding unconditional surrender] on the basis of the sole reservation that the Imperial house would be maintained, Anami [War Minister], Umezu [Army Chief of Staff], and Toyoda [Navy Chief of Staff] felt quite differently. . . . What gagged these men—all true 'Samurai' bred in an uncompromising tradition—were the other points Yonai had mentioned. They wanted either to prevent a security occupation entirely or to exclude at least the metropolis of Tokyo . . . So far as war criminals were concerned, they felt it should be Japan and not the victorious enemy who must try such cases. In effect, they also wanted to accept the surrender of their own men . . .
>
> "From the standpoint of making postwar rationalizations and of 'opening up the future of the country' it was psychologically vital for the Japanese army and navy to make it appear as if they had voluntarily disbanded their military might in order to save the nation and the world at large from the continued ravages of war. If they could do this, they could very easily later plant an appealing suggestion to the effect that the imperial forces of Great Japan had not really suffered defeat at all. For this reason, too, a security occupation and war crimes trials conducted by Allied tribunals had to be avoided at all costs. . . .
>
> "Togo pointedly asked whether Japan could win the war if a collapse of the type [of negotiations] occurred. To this the military heads could only reply that although they were not certain of ultimate victory, they were still capable of one more campaign—a 'decisive' battle in the homeland. . . . The Council was deadlocked."

[14]Memorandum to Major General I. R. Groves from Brigadier General T. F. Farrell

> Subject: Report on Overseas Operations—Atomic Bomb: 27 September 1945
> "After the Hiroshima strike we scheduled the second attack for 11 August [local time]. On learning that bad weather was predicted for that time, we reviewed the status of the assembly work for the Fat Man [the second atomic bomb], our uncompleted test program, and readiness of the planes and crews. It was determined that with an all-out effort, everything could be ready for takeoff on the early morning of 9 August [local time], provided our final test of the Fat Man proved satisfactory, which it did. The decision turned out to be fortunate in that several days of bad weather followed 9 August."

[15]Interim Committee report, June 1, 1945, from Harry S Truman, *Year of Decisions,* p. 419:

> "Recommend unanimously:
>
> "1. The bomb should be used against Japan as soon as possible.

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"2. It should be used against a military target surrounded by other buildings.
"3. It should be used without prior warning of the nature of the weapon."

[16]Proclamation for Unconditional Surrender, July 26, 1945. *Foreign Relations Papers of the United States: Potsdam Papers,* Vol. II, p. 1258:

> "Section 13: We call upon the government of Japan to proclaim now the unconditional surrender of the Japanese armed forces, and to provide proper and adequate assurance of their good faith in such action. The alternative for Japan is prompt and utter destruction."

[17]*Foreign Relations Papers of the United States: Potsdam Papers*, Document 12518, July 28, 1945.

Japanese Prime Minister Suzuki to reporters:

> "I believe the Joint Proclamation [the Potsdam Proclamation—warning Japan to accept unconditional surrender] by the three countries is nothing but a rehash of the Cairo Declaration [which also called on Japan to surrender]. As for the [Japanese] Government, it does not find any important value in it, and there is no other recourse but to ignore it entirely and resolutely fight for the successful conclusion of the war."

Questions for Analysis

1. Describe the main arguments, reasons, and evidence that support the perspective of Historian A.
2. Describe the main arguments, reasons, and evidence that support the perspective of Historian B.
3. Imagine that you were in the position of the U.S. president, Harry Truman. Explain what action you would have taken with respect to the atomic bombs and explain the rationale for your decision.

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Language and Thought

Sentence Meaning

Word sense

Semantic meaning

Perceptual meaning

Syntactic meaning

Pragmatic meaning

Language
A system of symbols for thinking and communicating

Language as a Tool

To clarify thinking
- Vagueness
- Ambiguity

For social communication
- Language style
- Slang
- Jargon
- Dialect

To influence people
- Expressions
- Emotive language
- Advertising

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Every time we use language, we send a message about our thinking. When we speak or write, we are conveying ideas, sharing feelings, and describing experiences. At the same time, language itself shapes and influences thinking. When language use is sloppy—vague, general, indistinct, imprecise, foolish, inaccurate—it leads to the same sort of thinking. The reverse is also true: Clear, precise language leads to clear, precise thinking, speaking, and writing. Thus, it is vital to use language with clarity and precision if other people are to understand the thoughts we are trying to communicate. And to use language effectively, we need to view language as a system, one with agreed-upon sets of rules and expectations.

To comprehend this essential tool more fully and use it more powerfully, we will consider both the development of languages and the symbolic nature of language. We will then examine strategies for using language effectively and for using language to clarify thinking. Finally, we will consider the social uses of language and how it can be used to influence thinking and behavior.

Throughout the chapter you will have opportunities to connect your ideas to these concepts. The various assignments place special emphasis on thinking and writing with precision: clearly conceptualizing what you want to say and discovering the best use of language to say it. You will also have the chance to explore the work of professional writers who have developed special expertise in thinking and communicating with language.

The Evolution of Language

Imagine a world without language. Imagine that you have suddenly lost your ability to speak, to write, to read. Imagine that your only means of expression are grunts, shrieks, and gestures. And finally, imagine that you soon discover that *everyone* in the world had also lost the ability to use language. What do you think such a world would be like?

As this exercise of the imagination illustrates, language forms the bedrock of your relations with others. It is the means you have to communicate your thoughts, feelings, and experiences to others, and they to you. This mutual sharing draws you together and leads to your forming relationships. Consider the social groups in your school, your neighborhood, or your community. Notice how language plays a central role in bringing people together into groups and in maintaining these groups. A loss of language would both limit the complexity of your individual relationships with others and drastically affect the entire way you live in society.

Linguists have ascertained that no single language was the parent of all languages. Rather, like people, languages belong to families. Languages in the same family share some characteristics with other members of their family, but they also demonstrate individual characteristics. We know that languages, like the human beings of whom they are a natural part, live, change, and die. Phrygian is no longer a living language, nor is Latin.

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English, like Spanish, French, Chinese, Urdu, or any of the other languages that you may speak, is a living language—and it has changed over hundreds of years. The English language has gone through four major evolutionary stages: *Old English,* A.D. 700–1050; *Middle English,* A.D. 1050–1450; *Early Modern English,* A.D. 1450–1700; and *Modern English,* 1700 to the present. Because languages are systems based on sound, these evolutionary stages of English reflect variations in how the language sounds. It is difficult to represent these sounds accurately for the older periods of English because of the absence of recordings. The written symbols demonstrating early versions of the Lord's Prayer that follow are approximations based on the consensus of linguistic scholars.

The Lord's Prayer

Old English

Faeder ure
Thu the eart on heofonum,
Si thin name gehalgod.
Tobecume thin rice.
Gewurthe thin willa on eorthan swa swa on heofonum.
Urne gedaeghwamlican hlaf syle you to daeg.
And forgyf you urne gyltas, swa swa you forgyfath urum gyltendum.
And ne gelaed thu you on costnunge, ac alys you of yfele. Sothlice.

Middle English

Oure fadur
that art in hauenes,
halewid be thi name;
thi kyngdoom come to;
be thi wile don in erthe as in heuene;
zyue to vs this dai oure breed ouer othir substaunce;
and forzyue to vs oure dettis, as you forzyuen to oure dettouris;
and lede vs not in to temptacioun,
but delyuere vs from yeul. Amen.

Early Modern English

Our Father
which art in heaven,
hallowed be thy name.
Thy kingdom come.
Thy will be done, in earth, as it is in heaven.
Give us this day our daily bread.
And forgive us our debts, as we forgive our debtors.

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And lead us not into temptation,
but deliver us from evil:
for Thine is the kingdom, and the power, and the glory for ever, Amen.

As you read these versions of the Lord's Prayer, think about the variations in sounds, words, and sentences. With the other members of your class, discuss variations in the language(s) you speak. Could any of these be considered evolutionary changes? Why or why not?

The Symbolic Nature of Language

As human beings, we are able to communicate with each other because of our ability to *symbolize,* or let one thing represent something else. Words are the most common symbols we use in our daily life. Although words are only sounds or written marks that have no meaning in and of themselves, they stand for objects, ideas, and other aspects of human experience. For example, the word *sailboat* is a symbol that represents a watergoing vessel with sails that is propelled by the wind. When you speak or write *sailboat,* you are able to communicate the sort of thing you are thinking about. Of course, if other people are to understand what you are referring to when you use this symbol, they must first agree that this symbol (*sailboat*) does in fact represent that wind-propelled vessel that floats on the water.

Language symbols (or words) can take two forms: They can be spoken sounds or written markings.* The symbol *sailboat* can be either written down or spoken aloud. Either way, it communicates the same idea. Since using language is so natural to us, we rarely stop to realize that our **language** is really a system of spoken sounds and written markings that we use to represent various aspects of our experience.

language A system of symbols for thinking and communicating

Language is like a set of symbolic building blocks. The basic blocks are sounds, which may be symbolized by letters. Sounds form the phonetic foundation of a language, and this process explains why different languages have distinctly different "sounds." Try having members of the class who speak other languages speak a word or a few sentences in the language they know. Listen to how the sound of each language differs from those of the others.

When humans are infants, they are able to make all the sounds of all languages. As they are continually exposed to the specific group of sounds of their society's language, they gradually concentrate on making only those sounds while discarding or never developing the others.

Sounds combine to form larger sets of blocks called *words.* Words are used to represent the various aspects of our experience—they symbolize objects, thoughts,

*A unique language case is posed by American Sign Language (ASL), which is now regarded by linguists as a full-fledged language, possessing its own grammar and syntax.

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feelings, actions, and concepts. When you read, hear, or think about a word, then it usually elicits in you a variety of ideas and feelings. Describe the ideas or feelings that the following words arouse in you: *college education, happiness, freedom, creative, love.*

The combination of all the ideas and feelings that a word arouses in your mind make up the "meaning" of that word to you. And although the meanings that these words have for you is likely to be similar in many respects to the meanings they have for other people, there are likely also many differences. Consider the different meanings these words have for the two people in the following dialogue:

A: For me, a ***college education*** represents the most direct path to my dreams. It's the only way I can develop the knowledge and abilities required for my career.

B: I can't agree with you. I pursued a ***college education*** for a while, but it didn't work out. I found that most of my courses consisted of large classes with professors lecturing about subjects that had little relation to my life. The value of a college education is overblown. I know many people with college degrees who have not been able to find rewarding careers.

A: Don't you see? An important part of achieving ***happiness*** is learning about things you aren't familiar with, expanding your horizons about the world, developing new interests. That's what college can give you.

B: I have enough interests. As far as I'm concerned, ***happiness*** consists of having the opportunity to do the things that I enjoy doing with the people I enjoy doing them with. For me, happiness is ***freedom!***

A: ***Freedom*** to do what? Freedom is meaningful only when you have worthwhile options to select and the wisdom to select the right ones. And a college education can help provide you both!

B: That sounds very idealistic, but it's also naive. Many of the college graduates I have met are neither wise nor happy. In order to be truly happy, you have to be involved in ***creative*** activities. Every day should be a surprise, something different to look forward to. Many careers pay well, but they don't provide creative opportunities.

A: Being ***creative*** means doing things you ***love.*** When you really love something you're doing, you are naturally creative. For example, I love to draw and paint, and these activities provide a creative outlet for me. I don't need to be creative at work—I have enough creative opportunities outside work.

B: You're wrong! ***Creativity*** doesn't simply mean being artistic. We should strive to be creative in every part of our lives, keep looking for new possibilities and unique experiences. And I think that you are misusing the word ***love.*** You can only really love things that are alive, like people and pets.

A: That's a very weird idea of ***love*** you have. As far as I'm concerned, ***love*** is a word that expresses a strong positive emotion that can be directed toward objects ("I love my car"), activities ("I love to dance"), or people. I don't see what's so complicated about that.

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B: To be able to ***love*** in any meaningful sense, the object of your love has to be able to respond to you so that the two of you can develop a relationship together. When was the last time that your car responded to your love for it?

A: Very funny. I guess that we just have different ideas about the word ***love***—as well as the words ***happiness, freedom,*** and ***creative.***

As this dialogue suggests, words are not simple entities with one clear meaning that everyone agrees on. Instead, most words are complex, multidimensional carriers of meaning; their exact meaning often varies from person to person. These differences in meaning can lead to disagreements and confusion, as illustrated in the previous dialogue. To understand how words function in your language and your thinking, you have to examine the way words serve as vehicles to express meaning.

Words arouse in each of us a variety of ideas, feelings, and experiences. Taken together, these ideas, feelings, and experiences express the *total meaning* of the words for the individual. Linguists believe that this total meaning is actually composed of four different types of meaning:

- Semantic meaning
- Perceptual meaning
- Syntactic meaning
- Pragmatic meaning

Let us examine each of them in turn.

Semantic Meaning (Denotation)

The *semantic meaning* of a word expresses the relationship between a linguistic event (speaking or writing) and a nonlinguistic event (an object, idea, or feeling). For example, saying "chair" relates to an object you sit in, while saying "college education" relates to the experience of earning an academic degree through postsecondary study. What events (ideas, feelings, objects) relate to the word *happiness? Freedom? Creative? Love?*

The semantic meaning of a word, also referred to as its *denotative meaning,* expresses the general properties of the word, and these properties determine how the word is used within its language system. How do you discover the general properties that determine word usage? Besides examining your own knowledge of the meaning and use of words, you can also check dictionary definitions. They tend to focus on the general properties that determine word usage. For example, a dictionary definition of *chair* might be "a piece of furniture consisting of a seat, legs, and back, and often arms, designed to accommodate one person."

However, to understand clearly the semantic meaning of a word, you often need to go beyond defining its general properties to identifying examples of the word that embody those properties. If you are sitting in a chair or can see one from where you are, examine its design. Does it embody all the properties identified in the

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definition? (Sometimes unusual examples embody most, but not all, of the properties of a dictionary definition—for example, a "beanbag chair" lacks legs and arms.) If you are trying to communicate the semantic meaning of a word to someone, it is generally useful to provide both the general properties of the word and examples that embody those properties. Try identifying those properties and examples for the words *happiness, freedom, creative,* and *love.*

Perceptual Meaning (Connotation)

The total meaning of a word also includes its *perceptual meaning,* which expresses the relationship between a linguistic event and an individual's consciousness. For each of us, words elicit unique and personal thoughts and feelings based on previous experiences and past associations. For example, I might relate saying "chair" to my favorite chair in my living room or the small chair that I built for my daughter. Perceptual meaning also includes an individual's positive and negative responses to a word. For this reason, perceptual meaning is sometimes called *connotative meaning,* the literal or basic meaning of a word plus all it suggests, or connotes, to you.

Think about the words you considered earlier and describe what personal perceptions, experiences, associations, and feelings they evoke in your mind: *college education, happiness, freedom, creative, love.*

Syntactic Meaning

Another component of a word's total meaning is its *syntactic meaning,* which defines its relation to other words in a sentence. Syntactic relationships extend among all the words of a sentence that are spoken or written or that will be spoken or written. The syntactic meaning defines three relationships among words:

- Content: words that express the major message of the sentence
- Description: words that elaborate or modify the major message of the sentence
- Connection: words that join the major message of the sentence

For example, in the sentence "The two novice hikers crossed the ledge cautiously," *hikers* and *crossed* represent the content, or major message, of the sentence. *Two* and *novice* define a descriptive relationship to *hikers,* and *cautiously* elaborates *crossed.*

At first, you may think that this sort of relationship among words involves nothing more than semantic meaning. The following sentence, however, clearly demonstrates the importance of syntactic meaning in language: "Invisible fog rumbles in on lizard legs." Although *fog* does not *rumble,* and it is not *invisible,* and the concept of moving on *lizard legs* instinctively seems incompatible with *rumbling,* still the sentence "makes sense" at some level of meaning—namely, at the syntactic level. One reason it does is that in this sentence you still have three basic content

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words—*fog, rumbles,* and *legs*—and two descriptive words, namely, *invisible* and *lizard.*

A further major syntactic relationship is that of connection. You use connective words to join ideas, thoughts, or feelings being expressed. For example, you could connect content meaning to either of your two sentences in the following ways:

- "The two novice hikers crossed the ledge cautiously *after* one of them slipped."
- "Invisible fog rumbles in on lizard legs, *but* acid rain doesn't."

When you add content words such as *one slipped* and *rain doesn't,* you join the ideas, thoughts, or feelings they represent to the earlier expressed ideas, thoughts, or feelings (*hikers crossed* and *fog rumbles*) by using connective words like *after* and *but,* as in the previous sentences.

"Invisible fog rumbles in on lizard legs" also makes sense at the syntactic level of meaning because the words of that sentence obey the syntax, or order, of English. Most speakers of English would have trouble making sense of "Invisible rumbles legs lizard on fog in"—or "Barks big endlessly dog brown the," for that matter. Because of syntactic meaning, each word in the sentence derives part of its total meaning from its combination with the other words in that sentence.

Look at the following sentences and explain the difference in meaning between each pair of sentences:

1. a. The process of achieving an *education at college* changes a person's future possibilities.
   b. The process of achieving a *college education* changes a person's future possibilities.
2. a. She felt *happiness* for her long-lost brother.
   b. She felt the *happiness* of her long-lost brother.
3. a. The most important thing to me is *freedom from* the things that restrict my choices.
   b. The most important thing to me is *freedom to* make my choices without restrictions.
4. a. Michelangelo's painting of the Sistine Chapel represents his *creative* genius.
   b. The Sistine Chapel represents the *creative* genius of Michelangelo's greatest painting.
5. a. I *love* the person I have been involved with for the past year.
   b. I am *in love* with the person I have been involved with for the past year.

Pragmatic Meaning

The last element that contributes to the total meaning of a word is its *pragmatic meaning,* which involves the person who is speaking and the situation in which the word is spoken. For example, the sentence "That student likes to borrow books from the library" allows a number of pragmatic interpretations:

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1. Was the speaker outside looking at *that student* carrying books out of the library?
2. Did the speaker have this information because he was a classmate of *that student* and saw her carrying books?
3. Was the speaker in the library watching *that student* check the books out?

The correct interpretation or meaning of the sentence depends on what was actually taking place in the situation—in other words, its pragmatic meaning, which is also called its *situational meaning*. For each of the following sentences, try describing a pragmatic context that identifies the person speaking and the situation in which the words are being spoken.

1. A *college education* is currently necessary for many careers that formerly required only high school preparation.
2. The utilitarian ethical system is based on the principle that the right course of action is that which brings the greatest *happiness* to the greatest number of people.
3. The laws of this country attempt to balance the *freedom* of the individual with the rights of society as a whole.
4. "You are all part of things, you are all part of *creation,* all kings, all poets, all musicians, you have only to open up, to discover what is already there." (Henry Miller)
5. "If music be the food of *love,* play on." (William Shakespeare)

After completing the activity, compare your answers with those of your classmates. In what ways are the answers similar or different? Analyze the way different pragmatic contexts (persons speaking and situations) affect the meanings of the italicized words.

The four meanings you just examined—*semantic, perceptual, syntactic, pragmatic*—create the total meaning of a word. That is to say, all the dimensions of any word—all the relationships that connect linguistic events with nonlinguistic events, your consciousness, other linguistic events, and situations in the world—make up the meaning *you* assign to a word.

Thinking Activity 6.1

THE LANGUAGE OF WAR*

During times of war and conflict, language takes on special significance, and political leaders take great care in selecting the key words related to the conflict. In the United States in late 2001, the significance of word meaning was thrust into the

*Thanks to Nancy Erber for suggesting this activity.

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spotlight when words that were originally used to characterize the war against terrorism were found to be offensive to certain groups of people and were therefore replaced. Read the following texts by William Safire and Michael R. Gordon and then answer the questions at the conclusion.

> "You are about to embark upon a great *crusade*," General Eisenhower told his troops on the eve of D-Day; he later titled his memoirs "*Crusade* in Europe." American presidents liked that word: Thomas Jefferson launched "a crusade against ignorance," Theodore Roosevelt exhorted compatriots to "spend and be spent in an endless *crusade*" and F.D.R., calling for a "new deal" in his acceptance speech at the 1932 Democratic convention, issued "a call to arms," a "*crusade* to restore America to its own people."
>
> But when George W. Bush ad-libbed that "this *crusade*, this war on terrorism, is going to take a while," his figure of speech was widely criticized. That's because the word has a religious root, meaning "taking the cross," and was coined in the 11th century to describe the first military expedition of the Crusaders, European Christians sent to recover the Holy Land from the followers of Muhammad. The rallying-cry noun is offensive to many Muslims: three years ago, Osama bin Laden maligned U.S. forces in the Middle East as "*crusader* armies spreading like locusts." . . .
>
> In the same way, when the proposed Pentagon label for the antiterror campaign was floated out as "Operation Infinite Justice," a spokesman for the council on American-Islamic Relations noted that such eternal retribution was "the prerogative of God." Informed of this, Defense Secretary Donald Rumsfeld quickly pulled the plug on the pretentious moniker.
>
> Who coins these terms? Nobody will step forward; instead, software called "Code Word, Nickname and Exercise Term System" is employed to avoid responsibility; it spits out a list of random names from which commanders can choose. This avoidance of coinage responsibility leads to national embarrassment (which is finite justice). "Operations," said Winston Churchill, "ought not to be described by code words which imply a boastful and overconfident sentiment." . . .
>
> —William Safire, "Every Conflict Generates Its Own Lexicon"

> LONDON, Oct. 26—Britain said today that it was prepared to join the United States in ground combat inside Afghanistan and would provide 600 Royal Marine commandos for the American-led military operation. The allies have their own lexicon. While the United States calls the operation Enduring Freedom, the British name for the operation is Veritas. The Canadians call the operation Apollo. The Australians call it Operation Slipper. An Australian official said the term was derived from Australian slang and alluded to the ability of forces to stealthily "slip in and slip out." The original name for the United States' operation was Infinite Justice, but this was changed recently.
>
> —Michael R. Gordon, *The New York Times*

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1. For each of the following terms, identify the *origin, definition,* and *related word forms:*

crusade	endure
infinite	apollo
justice	*veritas*

2. Next, find a quotation from an anthology (Bartlett's or another source) to illustrate the use and meaning of the word. Be sure to write down the entire quotation and any information about it, such as the author and date.
3. Finally, compare the word meanings in these quotations with the word meanings you identified in Question 1.

Thinking Activity 6.2

UNDERSTANDING NONSENSE WORDS

The importance of *syntactic meaning* is underscored in Lewis Carroll's famous poem "Jabberwocky," which appeared in *Through the Looking-Glass and What Alice Found There.* Although many of the words in the poem were creations of his own fertile imagination, the poem nevertheless has "meaning," due in large measure to the syntactic relationships between the words.

ONLINE RESOURCES
Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** for additional examples and discussions.

Jabberwocky

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

"Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!
Beware the Jubjub bird, and shun
The frumious Bandersnatch!"

He took his vorpal sword in hand:
Long time the manxome foe he sought—
So rested he by the Tumtum tree,
And stood awhile in thought.

Source: Lewis Carroll, *The Annotated Alice,* 191–197.

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And, as in uffish thought he stood,
The Jabberwock, with eyes of flame,
Came whiffling through the tulgey wood,
And burbled as it came!

One, two! One, two! And through and through
The vorpal blade went snicker-snack!
He left it dead, and with its head
He went galumphing back.

"And hast thou slain the Jabberwock?
Come to my arm, my beamish boy!
O frabjous day! Callooh! Callay!"
He chortled in his joy.

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

Thinking Activity 6.3

THE LANGUAGE OF CLONING

Recent breakthroughs in human cloning have ignited a firestorm of debate. As described in articles at the conclusion of Chapter 10, "Constructing Arguments," many people are excited about the scientific benefits to human health that cloning techniques might provide. In contrast, many others feel that human cloning is ethically and/or religiously wrong and ought to be prohibited.

Not surprisingly, language plays a pivotal role in this debate, as it does with other controversial issues such as abortion and capital punishment. Read the following article, "That Scientific Breakthrough Thing," and then answer the questions that follow.

> WASHINGTON
> Dispatch from the cloning wars: When Advanced Cell Technology announced that it had created human embryos by cloning, a political uproar ensued. Now comes the fight over vocabulary.
>
> Last week, the Senate held hearings on therapeutic cloning, in which DNA from an adult cell is inserted into a woman's egg—not to make a baby, but to generate specialized tissues to treat disease. Proponents of the technique, keenly aware that cloning has acquired a bad name in Washington, began offering new ones.

Source: Sheryl Gay Stolberg, "That Scientific Breakthrough Thing," *The New York Times*, December 9, 2001. Copyright © 2001 by The New York Times Co. Reprinted by permission.

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Dr. Bert Vogelstein of Johns Hopkins University proposed "nuclear transplantation." Senator Tom Harkin, Democrat of Iowa, suggested "therapeutic cellular transfer," or T.C.T. (Just what Washington needs, another abbreviation.)

And what to call the cloned embryos themselves? Dr. Ronald Green, the Dartmouth philosophy professor who heads Advanced Cell's ethics panel, said over the summer that he didn't like the term embryo because it implies the product of egg and sperm. And he pointed out that the entities created by cloning have no precedent in biology. "I'm tending personally to steer toward the term 'activated egg,'" he said then.

More recently, he has offered up "cleaving egg," to refer to the continuous cell division that follows the implantation of the DNA. Dr. Ann Kiessling, a Harvard University reproductive biologist who also serves on the ethics panel, has invented the word "ovasome" (rhymes with chromosome), reasoning that the experiments use an egg to make somatic, or body, cells.

"It's a marketing strategy," said Douglas Johnson, spokesman for the National Right to Life Committee, which strongly opposes cloning. "They are working overtime to develop linguistic cloaking devices."

Not so, says Dr. Kiessling, of Harvard. "The problem here," she said, "is accuracy of language. We don't have any words for this that don't mean something else to somebody."

Maybe so, but in announcing the experiment that created the ruckus, Advanced Cell Technology said that it had created the world's first cloned human embryos. Then again, what kind of splash would the news have made had the company declared itself the creator of the world's first human activated eggs?

— Sheryl Gay Stolberg, "That Scientific Breakthrough Thing"

1. Explain the various word meanings (semantic, perceptual, pragmatic) associated with the following terms:

The cloning process:	*The cloning result:*
Human cloning	Cloned embryos
Nuclear transplantation	Activated egg
Therapeutic cellular transfer	Cleaving egg
(T.C.T.)	Ovasome

2. Identify which terms you think are most appropriate (you can also create your own, like "ovasome") and explain the reasons for your selection.

Using Language Effectively

To develop your ability to use language effectively, you have to understand how language functions when it is used well. One way to do this is to read widely. By reading good writing, you get a "feel" for how language can be used effectively. You can get more specific ideas by analyzing the work of highly regarded writers, who use word meanings accurately. They also often use many action verbs, concrete nouns, and vivid adjectives to communicate effectively. By doing so, they appeal to your

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Thinking Critically About Visuals

Reading the Unwritten

Graffiti has been a medium of communication for thousands of years. Here, an anonymous tagger in the Gaza Strip region of the Palestinian territories is responding to a lull in the continued violence between Israeli and Palestinian forces. The schoolchildren are Palestinian.

What is the message of this graffiti, and to whom is it directed? How can you tell? What makes graffiti effective—or not—for conveying a specific kind of message to a particular audience?

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TATS CRU Inc. is a Bronx, New York–based collective of graffiti artists (or, as they put it on their website, "professional muralists who work in aerosol") who have become renowned for their memorial murals. The artists also lecture about graffiti and urban art at educational institutions and museums around the country. This mural appeared on a wall in New York City.

Who is the audience for the memorial mural? In what ways is a memorial mural similar to, and different from, a traditional newspaper obituary? What other purposes might a memorial mural serve besides showing love and respect for the deceased?

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senses and help you understand clearly what is being communicated. Good writers may also vary sentence length to keep the reader's attention and create a variety of sentence styles to enrich meaning. Communicating your ideas effectively involves using the full range of words to express yourself. Writing is like painting a "word picture" of your thoughts: You need to use the full range of colors, not just a few basic ones. An equally important strategy is for you to write and then have others evaluate your writing and give you suggestions for improving it. You will be using both of these strategies in the pages that follow.

Thinking Passage

BLUE HIGHWAYS

The following selection is from *Blue Highways*, a book written by a young man of Native American heritage named William Least Heat-Moon. After losing his teaching job at a university and separating from his wife, he decided to explore America. He outfitted his van (named "Ghost Dancing") and drove around the country using back roads (represented on the maps by blue lines) rather than superhighways. During his travels, he saw fascinating sights, met intriguing people, and developed some significant insights about himself. Read the passage carefully and then answer the questions that follow.

From Blue Highways

by William Least Heat-Moon

Back at Ghost Dancing, I saw a camper had pulled up. On the rear end, by the strapped-on aluminum chairs, was something like "The Wandering Watkins." Time to go. I kneeled to check a tire. A smelly furry white thing darted from behind the wheel, and I flinched. Because of it, the journey would change.

"Harmless as a stuffed toy." The voice came from the other end of the leash the dog was on. "He's nearly blind and can't hear much better. Down just to the nose now." The man, with polished cowboy boots and a part measured out in the white hair, had a face so gullied even the Soil Conservation Commission couldn't have reclaimed it. But his eyes seemed lighted from within.

"Are you Mr. Watkins?" I asked.

"What's left of him. The pup's what's left of Bill. He's a Pekingese. Chinese dog. In dog years, he's even older than I am, and I respect him for that. We're two old men. What's your name?"

"Same as the dog's."

"I wanted to give him a Chinese name, but old what's-her-face over there in the camper wouldn't have it. Claimed she couldn't pronounce Chinese names. I says,

Source: From *Blue Highways: A Journey into America* by William Least Heat-Moon. Copyright © 1982 by William Least Heat-Moon. By permission of Little, Brown and Company Inc.

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'You can't say Lee?' She says, 'You going to name a dog Lee?' 'No,' I says, 'but what do you think about White Fong?' Now, she's not a reader unless it's a beauty parlor magazine with a Kennedy or Hepburn woman on the cover, so she never understood the name. You've read your Jack London, I hope. She says, 'When I was a girl we had a horse called William, but that name's too big for that itty-bitty dog. Just call him Bill.' That was that. She's a woman of German descent and a decided person. But when old Bill and I are out on our own, I call him White Fong."

Watkins had worked in a sawmill for thirty years, then retired to Redding; now he spent time in his camper, sometimes in the company of Mrs. Watkins.

"I'd stay on the road, but what's-her-face won't have it."

As we talked, Mrs. What's-her-face periodically thrust her head from the camper to call instructions to Watkins or White Fong. A finger-wagging woman, full of injunctions for man and beast. Whenever she called, I watched her, Watkins watched me, and the dog watched him. Each time he would say, "Well, boys, there you have it. Straight from the back of the horse."

"You mind if I swear?" I said I didn't. "The old biddy's in there with her Morning Special—sugar doughnut, boysenberry jam, and a shot of Canadian Club in her coffee. In this beauty she sits inside with her letters."

"What kind of work you in?" he asked.

That question again. "I'm out of work," I said to simplify.

"A man's never out of work if he's worth a damn. It's just sometimes he doesn't get paid. I've gone unpaid my share and I've pulled my share of pay. But that's got nothing to do with working. A man's work is doing what he's supposed to do, and that's why he needs a catastrophe now and again to show him a bad turn isn't the end, because a bad stroke never stops a good man's work. Let me show you my philosophy of life." From his pressed Levi's he took a billfold and handed me a limp business card. "Easy. It's very old."

The card advertised a cafe in Merced when telephone numbers were four digits. In quotation marks was a motto: "Good Home Cooked Meals."

" 'Good Home Cooked Meals' is your philosophy?"

"Turn it over, peckerwood."

Imprinted on the back in tiny, faded letters was this:

> I've been bawled out, balled up, held up, held down, hung up, bulldozed, blackjacked, walked on, cheated, squeezed and mooched; stuck for war tax, excess profits tax, sales tax, dog tax, and syntax, Liberty Bonds, baby bonds, and the bonds of matrimony, Red Cross, Blue Cross, and the double cross; I've worked like hell, worked others like hell, have got drunk and got others drunk, lost all I had, and now because I won't spend or lend what little I earn, beg, borrow or steal, I've been cussed, discussed, boycotted, talked to, talked about, lied to, lied about, worked over, pushed under, robbed, and damned near ruined. The only reason I'm sticking around now is to see WHAT THE HELL IS NEXT.

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"I like it," I said.

"Any man's true work is to get his boots on each morning. Curiosity gets it done about as well as anything else."

Questions for Analysis

1. After reading the passage from *Blue Highways*, analyze Least Heat-Moon's use of language. Make three columns on a page. Use these headings: Action Verbs, Concrete Nouns, and Vivid Adjectives. List at least six examples of each from the reading.
2. Describe how the author uses dialogue and analogies to introduce us to Mr. Watkins.
3. According to Mr. Watkins, "A man's never out of work if he's worth a damn. It's just sometimes he doesn't get paid. . . . Any man's true work is to get his boots on each morning. Curiosity gets it done about as well as anything else." What do you think he's trying to say about the challenges posed by life to both men and women?

Thinking Activity 6.4

COMMUNICATING AN EXPERIENCE

Create your own description of an experience you have had while traveling. Use language as effectively as possible to communicate the thoughts, feelings, and impressions you wish to share. Be conscious of your use of action verbs, concrete nouns, and vivid adjectives. Ask other students to read your description and identify examples of these words. Then ask for feedback on ways to improve your description.

Using Language to Clarify Thinking

Language reflects thinking, and thinking is shaped by language. Previous sections of this chapter examine the creature we call *language*. You have seen that it is composed of small cells, or units, pieces of sound that combine to form larger units called *words*. When words are combined into groups allowed by the rules of the language to form sentences, the creature grows by leaps and bounds. Various types of sentence structure not only provide multiple ways of expressing the same ideas, thoughts, and feelings, but also help to structure those thoughts, weaving into them nuances of focus. In turn, your patterns of thinking breathe life into language, giving both processes power.

Language is a tool powered by patterns of thinking. With its power to represent your thoughts, feelings, and experiences symbolically, language is the most

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Visual Thinking

Words Paint a Picture

Describe a time when you were able to "paint a picture" with words. Why were you able to use language so effectively? How can we "paint" word pictures more frequently in our everyday lives?

important tool your thinking process has. Although research shows that thinking and communicating are two distinct processes, these two processes are so closely related that they are often difficult to separate or distinguish.*

Because language and thinking are so closely related, how well you perform one process is directly related to how well you perform the other. In most cases, when you are thinking clearly, you are able to express your ideas clearly in language. When you have unclear thoughts, it is usually because you lack a clear understanding of the situation, or you do not know the right language to give form to these thoughts. When your thoughts are truly clear and precise, this means that you know the words to give form to these thoughts and so are able to express them in language.

*Seminal works on this topic are *Thought and Language,* by Lev Vygotsky, and *Cognitive Development: Its Cultural and Social Foundation,* by A. R. Luria.

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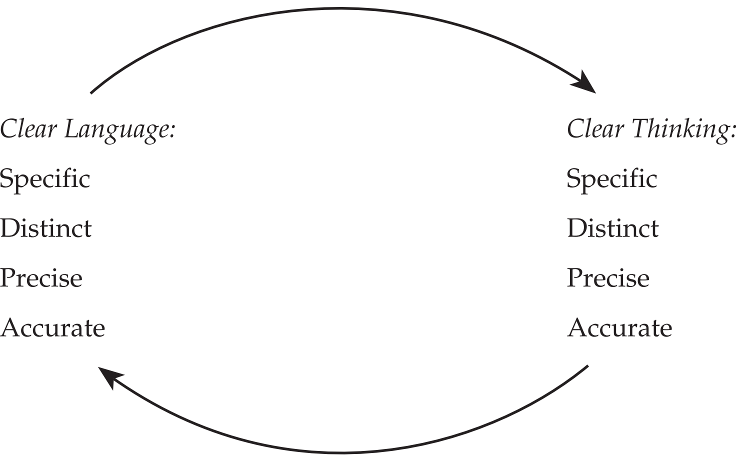
The relationship between thinking and language is *interactive;* both processes are continually influencing each other in many ways. This is particularly true in the case of language, as the writer George Orwell points out in the following passage from his classic essay "Politics and the English Language":

> A man may take to drink because he feels himself to be a failure, and then fail all the more completely because he drinks. It is rather the same thing that is happening to the English language. It becomes ugly and inaccurate because our thoughts are foolish, but the slovenliness of our language makes it easier for us to have foolish thoughts. The point is that the process is reversible. Modern English, especially written English, is full of bad habits which spread by imitation and which can be avoided if one is willing to take the necessary trouble. If one gets rid of these habits one can think more clearly.

Just as a drinker falls into a vicious cycle that keeps getting worse, so too can language and thinking. When your use of language is sloppy—that is, vague, general, indistinct, imprecise, foolish, inaccurate, and so on—it leads to thinking of the same sort. And the reverse is also true. Clear and precise language leads to clear and precise thinking:



The opposite of clear, effective language is language that fails to help the reader (or listener) picture or understand what the writer (or speaker) means because it is vague or ambiguous. Most of us are guilty of using such ineffective language in speech ("It was a great party!"), but for college and work writing, we need to be as precise as possible. And our writing can gain clarity and power if we use our creative-thinking skills to develop fresh, striking figures of speech to illuminate our ideas.

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Improving Vague Language

Although our ability to name and identify gives us the power to describe the world in a precise way, often we tend to describe it using words that are imprecise and general. Such general and nonspecific words are called **vague words.** Consider the following sentences:

- I had a *nice* time yesterday.
- That is an *interesting* book.
- She is an *old* person.

In each of these cases, the italicized word is vague because it does not give a precise description of the thought, feeling, or experience that the writer or speaker is trying to communicate. A word (or group of words) is vague if its meaning is not clear and distinct. That is, vagueness occurs when a word is used to represent an area of experience without clearly defining it.

vague word A word that lacks a clear and distinct meaning

Most words of general measurement—*short, tall, big, small, heavy, light,* and so on—are vague. The exact meanings of these words depend on the specific situation in which they are used and on the particular perspective of the person using them. For example, give specific definitions for the following words in italics by filling in the blanks. Then compare your responses with those of other members of the class. Can you account for the differences in meaning?

1. A *middle-aged* person is one who is ________ years old.
2. A *tall* person is one who is over _______ feet _____ inches tall.
3. It's *cold* outside when the temperature is _______ degrees.
4. A person is *wealthy* when he or she is worth ______ dollars.

Although the vagueness of general measurement terms can lead to confusion, other forms of vagueness are more widespread and often more problematic. Terms such as *nice* and *interesting,* for example, are imprecise and unclear. Vagueness of this sort permeates every level of human discourse, undermines clear thinking, and is extremely difficult to combat. To use language clearly and precisely, you must develop an understanding of the way language functions and commit yourself to breaking the entrenched habits of vague expression.

For example, read the following opinion of a movie and circle all the vague, general words that do not express a clear meaning:

> *Pulp Fiction* is a really funny movie about some really unusual characters in California. The movie consists of several different stories that connect up at different points. Some of the stories are nerve-racking and others are hilarious, but all of them are very well done. The plots are very interesting, and the main characters are excellent. I liked this movie a lot.

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Because of the vague language in this passage, it expresses only general approval—it does not explain in exact or precise terms what the experience was like. Thus, the writer of the passage is not successful in communicating the experience.

Strong language users have the gift of symbolizing their experiences so clearly that you can actually relive those experiences with them. You can identify with them, sharing the same thoughts, feelings, and perceptions that they had when they underwent (or imagined) the experience. Consider how effectively the passage written by William Least Heat-Moon on pages 218–220 communicates the thoughts, feelings, and experiences of the author.

One useful strategy for clarifying vague language often used by journalists is to ask and try to answer the following questions: *Who? What? Where? When? How? Why?* Let's see how this strategy applies to the movie vaguely described previously.

- *Who* were the people involved in the movie? (actors, director, producer, characters portrayed)
- *What* took place in the movie? (setting, events, plot development)
- *Where* does the movie take place? (physical location, cultural setting)
- *When* do the events in the movie take place? (historical situation)
- *How* does the film portray its events? (How do the actors create their characters? How does the director use film techniques to accomplish his goals?)
- *Why* do I have this opinion of the film? (What are the reasons for my forming that opinion?)

Even if we don't give an elaborate version of our thinking, we can still communicate effectively by using language clearly and precisely. For example, examine this review summary of *Pulp Fiction* by the professional film critic David Denby. Compare and contrast it with the earlier review.

> An ecstatically entertaining piece of suave mockery by Quentin Tarantino that revels in every manner of pulp flagrancy—murder and betrayal, drugs, sex, and episodes of sardonically distanced sadomasochism—all told in three overlapping tales. It's a very funky, American sort of pop masterpiece: improbable, uproarious, with bright colors and danger and blood right on the surface.

Thinking Activity 6.5

REVIEWING A MOVIE

Write a review of a movie that you saw recently, concentrating on expressing your ideas clearly and precisely. Use the following questions to guide your analysis:

1. *Who* were the people involved in the movie?
2. *What* took place in the movie?
3. *Where* does the movie take place?
4. *When* do the events in the movie take place?
5. *How* does the film portray its events?
6. *Why* did you form this particular opinion about the film?

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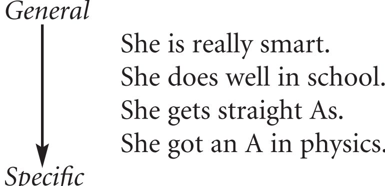
Most people use vague language extensively in day-to-day conversations. In many cases, it is natural that your immediate reaction to an experience would be fairly general ("That's nice," "She's interesting," etc.). If you are truly concerned with sharp thinking and meaningful communication, however, you should follow up these initial general reactions by more precisely clarifying what you really mean.

- I think that she is a nice person *because* . . .
- I think that he is a good teacher *because* . . .
- I think that this is an interesting class *because* . . .

Vagueness is always a matter of degree. In fact, you can think of your descriptive/informative use of language as falling somewhere on a scale between extreme generality and extreme specificity. For example, the following statements move from the general to the specific.



Although different situations require various degrees of specificity, you should work at becoming increasingly more precise in your use of language.

Thinking Passage

AN ACCOUNT OF AVIANCA FLIGHT 52

Using language imprecisely can lead to miscommunication, sometimes with disastrous results. For example, on January 29, 1990, an Avianca Airlines flight from Colombia, South America, to New York City crashed, killing seventy-three persons. After circling Kennedy Airport for forty-five minutes, the plane ran out of fuel before it could land, apparently the result of imprecise communication between the plane's pilot and the air traffic controllers. Read the following excerpts from the January 30, 1990, *New York Times* account of the incident, and then answer the questions that follow.

An Account of Avianca Flight 52

The Federal Aviation Administration today defended the controllers who guided a Colombian jetliner toward Kennedy International Airport, releasing the first verbatim transcripts of communications in the hour before the jet crashed. The

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officials suggested that the plane's pilot should have used more precise language, such as the word "emergency," in telling controllers how seriously they were short of fuel. They made the statements a day after Federal investigators said that regional controllers never told local controllers the plane was short of fuel and had asked for priority clearance to land.

The transcripts show that the crew of Avianca Flight 52 told regional controllers about 45 minutes before the plane crashed that "we would run out of fuel" if the plane was redirected to Boston instead of being given priority to land at Kennedy. The crew said it would be willing to continue in its holding pattern 40 miles south of Kennedy for "about five minutes—that's all we can do" before the plane would have to move onward to Kennedy. But the regional controllers who gave that message to the local controllers who were to guide the plane on its final descent to Kennedy did not tell them that there was a problem with fuel supplies on the jet or that the plane had requested priority handling, the transcripts recorded by the FAA confirmed.

Taken by itself, the information that the plane could circle for just five more minutes would not make the immediate danger of the plane clear to the local controllers. Without being told that the plane did not have enough fuel to reach Boston or that its crew had asked for priority clearance, the local controllers might have assumed that it had reached a point where it could still land with adequate reserves of fuel still on board.

Despite the apparent lapse in communications among controllers, an FAA spokesman said they acted properly because the plane's crew had not explicitly declared a fuel emergency. An emergency would require immediate clearance to land.

R. Steve Bell, president of the National Air Traffic Controllers Association, called the safety board's statements during its inquiry "highly misleading and premature." Mr. Bell, in a statement issued today, said the pilots of the plane should have made known to controllers the extent of their problem in order to obtain immediate clearance to land the plane. "The Avianca pilot never declared a 'fuel emergency' or 'minimum fuel,' both of which would have triggered an emergency response by controllers," he said. "Stating that you are low on fuel does not imply an immediate problem. In addition, this information would not necessarily be transmitted when one controller hands off to another."

Questions for Analysis

1. If the pilot of the airplane were alive (all crew died in the crash), how do you think he would analyze the cause of the crash?
2. How do the air traffic controllers and the FAA analyze the cause of the crash?
3. How do you analyze the cause of the crash? What reasons led you to that conclusion?

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4. Describe a situation that you were involved in, or that you heard about, in which a misunderstanding resulted from an ambiguous use of language.

Using Language in Social Contexts

Language Styles

Language is always used in a context. That is, you always speak or write with an audience, whether a person or a group of people, in mind. The audience may include friends, coworkers, strangers, or only yourself! You also always use language in a particular situation. You may converse with your friends, meet with your boss, or carry out a business transaction at the bank or supermarket. In each of these cases, you use the language style that is appropriate to the social situation. For example, describe how you usually greet the following people when you see them:

A good friend:
A teacher:
A parent:
An employer:
A waiter/waitress:

Different social contexts call for different language responses. In a working environment, no matter how frequently you interact with coworkers or employers, your language style tends to be more formal and less abbreviated than it is in personal friendships. Conversely, the more familiar you are with someone and the better you know that person, the more abbreviated your style of language will be in that context, for you share a variety of ideas, opinions, and experiences with that person. The language style identifies this shared thinking and consequently restricts the group of people who can communicate within this context.

We all belong to social groups in which we use styles that separate "insiders" from "outsiders." On the one hand, when you use an abbreviated style of language with your friend, you are identifying that person as a friend and sending a social message that says, "I know you pretty well, and I can assume many common perspectives between us." On the other hand, when you are speaking to someone at the office in a more elaborate language style, you are sending a different social message, namely, "I know you within a particular context [this workplace], and I can assume only certain common perspectives between us."

In this way we use language to identify the social context and to define the relationship between the people communicating. Language styles vary from informal, in which we abbreviate not only sentence structure but also the sounds that form words—as in "ya" for *you*—to increasingly formal, in which we use more complex sentence structure as well as complete words in terms of sound patterns.

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Standard American English

The language style used in most academic and workplace writing is called *Standard American English (SAE)*. SAE follows the rules and conventions given in handbooks and taught in school. The ability to use SAE marks a person as part of an educated group that understands how and when to use it.

Unless otherwise specified, you should use SAE for college speaking and writing assignments, and your vocabulary should be appropriate for the intended audience. For example, social science students and instructors would immediately understand what *bell curve* means, but other audiences might need an explanation of this term. Again, if your literature teacher is the sole intended audience for your paper, you don't need to define a *literary symbol.* But if the assignment asks you to write for fourth-grade students to encourage them to enjoy poetry, then you would want to define literary terms. Depending on your intended audience and purpose, you may or may not wish to employ slang, jargon, or dialect, but you should understand these forms of language.

Visual Thinking

"What's Happening?"

Using language effectively involves using the language style appropriate to the situation. What are some of the different language styles you use in your life? Which language styles do you feel least comfortable with? Why?

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Slang

Read the following dialogue and then rewrite it in your own style.

GIRL 1: "Hey, did you see that new guy? He's a dime. I mean, really diesel."
GIRL 2: "All the guys in my class are busted. They are tore up from the floor up. Punks, crack-heads, low-lifes. Let's exit. There's a jam tonight that is going to be the bomb, really fierce. I've got to hit the books so that I'll still have time to chill."

How would you describe the style of the original dialogue? How would you describe the style of your version of the dialogue? The linguist Shoshana Hoose writes:

> As any teen will tell you, keeping up with the latest slang takes a lot of work. New phrases sweep into town faster than greased lightning, and they are gone just as quickly. Last year's "hoser" is this year's "dweeb" (both meaning somewhat of a "nerd"). Some slang consists of everyday words that have taken on a new, hip meaning. "Mega," for instance, was used mainly by astronomers and mathematicians until teens adopted it as a way of describing anything great, cool, and unbelievable. Others are words such as *gag* that seem to have naturally evolved from one meaning (to throw up) to another (a person or thing that is gross to the point of making one want to throw up). And then there are words that come from movies, popular music, and the media. "Rambo," the macho movie character who singlehandedly defeats whole armies, has come to mean a muscular, tough, adventurous boy who wears combat boots and fatigues.
>
> As linguists have long known, cultures create the most words for the things that preoccupy them the most. For example, Eskimos have more than seventy-six words for *ice* and *snow*, and Hawaiians can choose from scores of variations on the word *water*. Most teenage slang falls into one or two categories: words meaning "cool" and words meaning "out of it." A person who is really out of it could be described as a *nerd*, a *goober*, a *geek*, a *fade*, or a *pinhead*, to name just a few possibilities.

Thinking Activity 6.6

THINKING ABOUT SLANG

Review the slang terms and definitions in the following glossary. For each term, list a word that you use or have heard of to mean the same thing. How do your terms match up?

Word:	*Meaning:*	*Your word:*
word	a statement of agreement; for example, "It's hot out" "Word!"	
kickin' it	hanging out as in "What are you doing, kickin' it?" It can also refer to two people hooking up as in "they were kickin' it"	
chillaxing	relaxing + chilling	

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Word:	*Meaning:*	*Your word:*
son	either as a term of brotherly affection as in "Hey, what up son?" but more commonly a means of talking down to someone ("Yo son")	
gettin' after it	drinking or getting drunk	
get it done	basically "do it!," used when someone is in the middle of doing something like chugging a beer, lifting something heavy, etc.	
tap it/that	hook up with someone	
what's good?	meaning "what's going on?"	
chillin'	hanging out	
bling	expensive jewelry, someone who has "bling" (is rich)	
psyched/stoked	to be excited about something	

If your meanings did not match those in the glossary or if you did not recognize some of the words in the glossary, what do you think was the main reason for your lack of comprehension?

Slang is a restrictive style of language that limits its speakers to a particular group. As Hoose points out, age is usually the determining factor in using slang. But there are special forms of slang that are not determined by age; rather, they are determined by profession or interest group. Let's look at this other type of language style.

Jargon

Jargon is made up of words, expressions, and technical terms that are intelligible to professional circles or interest groups but not to the general public. Consider the following interchanges:

1. A: Breaker 1-9. Com'on, Little Frog.
   B: Roger and back to you, Charley.
   A: You got to back down; you got a Smokey ahead.
   B: I can't afford to feed the bears this week. Better stay at 5-5 now.
   A: That's a big 10-4.
   B: I'm gonna cut the coax now.
2. OK A1, number six takes two eggs, wreck 'em, with a whiskey down and an Adam and Eve on a raft. Don't forget the Jack Tommy, express to California.
3. Please take further notice, that pursuant to and in accordance with Article II, Paragraph Second and Fifteen of the aforesaid Proprietary Lease Agreement, you are obligated to reimburse Lessor for any expense Lessor incurs including legal fees in instituting any action or proceeding due to a default of your obligations as contained in the Proprietary Lease Agreement.

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Can you identify the groups that would understand the meaning of each of the previous examples?

Dialects

Within the boundaries of geographical regions and ethnic groups, the form of a language used may be so different from the usual (or standard) in terms of its sound patterns, vocabulary, and sentence structure that it cannot be understood by people outside the specific regional or ethnic group. In this case, we are no longer talking about variations in language style; we are talking instead about distinct *dialects.* Consider these sentences from two different dialects of English:

DIALECT A: Dats allabunch of byoks at de license bureau. He fell out de rig and broke his leg boon.

DIALECT B: I went out to the garden to pick the last of them Kentucky Wonder pole beans of mine, and do you know, there on the grass was just a little mite of frost.

Though you can recognize these sentences as English, you may not recognize all of the words, sentence structures, and sound patterns that these speakers used.

Dialects differ from language styles in being generally restricted to geographical and/or ethnic groups, but also in varying from the standard language to a greater degree than language styles do. Dialects vary not only in words but also in sound patterns and in syntax. If you speak a dialect, write one or two sentences in that dialect and share them with your classmates. How does your dialect vary from Standard American English in terms of words and syntactic forms?

The Social Boundaries of Language

Language is a system of communication, by sounds and markings, among given groups of people. Within each language community, members' thinking patterns are defined in many respects by the specific patterns of meaning that language imposes. Smaller groups within language communities display distinctive language patterns. When there are some differences from the norm, mainly in vocabulary and length of sentences, we say the speakers are using a specific language style. When the form of the language spoken by these smaller groups shows many differences from the "usual" or "regular" form in words and sentence structure, we call this language form a *dialect.* Often language style is determined by the context, but sometimes speakers who differ from each other in terms of age, sex, or social class also differ from each other in their speech—even in the same social context. This is called *social variation.*

We cannot, however, ignore the way in which our thoughts about a social situation determine the variety of language we use. The connection between language and thought turns language into a powerful social force that separates us as well as binds us together. The language that you use and the way you use it serve as important clues to your social identity. For example, dialect identifies your geographical area or group, slang marks your age group and subculture, jargon often identifies

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your occupation, and accent typically suggests where you grew up and your socioeconomic class. Social dimensions of language are important influences in shaping your response to others. Sometimes they can trigger stereotypes you hold about someone's interests, social class, intelligence, personal attributes, and so on. The ability to think critically gives you the insight and the intellectual ability to distinguish people's language use from their individual qualities, to correct inaccurate beliefs about people, and to avoid stereotypical responses in the future.

Thinking Activity 6.7

ANALYZING LANGUAGE USES

1. Describe examples, drawn from individuals in your personal experience, of each of the following: dialect, accent, jargon, slang.
2. Describe your immediate responses to the examples you just provided. For example, what is your immediate response to someone speaking in each of the dialects on page 231? To someone with a British accent? To someone speaking "computerese"? To someone speaking a slang that you don't understand?
3. Analyze your responses. How were they formed? Do they represent an accurate understanding of the person or a stereotyped belief?
4. Identify strategies for using critical-thinking abilities to overcome inaccurate and inappropriate responses to others based on their language usage.

Using Language to Influence

The intimate relationship between language and thinking makes it natural that people use language to influence the thinking of others. As you have seen, within the boundaries of social groups, people use a given language style or dialect to emphasize shared information and experience. Not only does this sharing socially identify the members of the group; it also provides a base for them to influence one another's thinking. The expression "Now you're speaking my language!" illustrates this point. Some people make a profession of using language to influence people's thinking. In other words, many individuals and groups are interested in influencing—and sometimes controlling—your thoughts, your feelings, and (as a result) your behavior. To avoid being unconsciously manipulated by these efforts, you must have an understanding and an awareness of how language functions. Such an understanding will help you distinguish actual arguments, information, and reasons from techniques of persuasion that others use to try to get you to accept their viewpoint without critical thought. Two types of language are often used to promote the uncritical acceptance of viewpoints:

- Euphemistic language
- Emotive language

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By developing insight into these language strategies, you will strengthen your abilities to function as a critical thinker.

Euphemistic Language

The term *euphemism* derives from a Greek word meaning "to speak with good words" and involves substituting a more pleasant, less objectionable way of saying something for a blunt or more direct way. For example, an entire collection of euphemisms exists to disguise the unpleasantness of death: "passed away," "went to her reward," "departed this life," and "blew out the candle."

Why do people use euphemisms? They do so probably to help smooth out the "rough edges" of life, to make the unbearable bearable and the offensive inoffensive. Sometimes people use them to make their occupations seem more important. For example, a garbage collector may be called a "sanitation engineer"; a traveling salesman, a "field representative"; and a police officer, a "law enforcement official."

Euphemisms can become dangerous when they are used to create misperceptions of important issues. For example, an alcoholic may describe himself as a "social drinker," thus ignoring the problem and the help he needs. Or a politician may indicate that one of her other statements was "somewhat at variance with the truth"—meaning that she lied. Even more serious examples include describing rotting slums as "substandard housing," making the deplorable conditions appear reasonable and the need for action less important. One of the most devastating examples of the destructive power of euphemisms was Nazi Germany's characterization of the slaughter of over 12 million men, women, and children by such innocuous phrases as the "final solution" and the "purification of the race."

George Orwell, the author of the futuristic novel *1984,* describes how governments often employ euphemisms to disguise and justify wrongful policies in the following passage taken from his classic essay "Politics and the English Language":

> In our time, political speech and writing are largely the defense of the indefensible. Things like the continuance of British rule in India, the Russian purges and deportations, [and] the dropping of the atom bombs on Japan can indeed be defended, but only by arguments which are too brutal for most people to face, and which do not square with the professed aims of political parties. Thus political language has to consist largely of euphemism, question-begging and sheer cloudy vagueness. Defenseless villages are bombarded from the air, the inhabitants driven out into the countryside, the cattle machine-gunned, the huts set on fire with incendiary bullets: this is called *pacification.* Millions of peasants are robbed of their farms and sent trudging along the roads with no more than they can carry: this is called *transfer of population* or *rectification of frontiers.* People are imprisoned for years without trial, or shot in the back of the neck or sent to die of scurvy in Arctic lumber camps: this is called *elimination of unreliable elements.* Such phraseology is needed if one wants to name things without calling up mental pictures of them.

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Euphemisms crop up in every part of our lives, but bureaucracies are particularly prolific and creative "euphemisers." Every year the nation's English teachers present annual "Doublespeak Awards" to those institutions producing the most egregious euphemisms. Listed below are some past winners. Why do you think these organizations created these particular euphemisms? Can you add to the list euphemisms that you've heard or read recently?

Department of Defense		
bombing	=	"servicing the target"
people to be killed	=	"soft targets"
buildings to be bombed	=	"hard targets"
U.S. Senate		
voting a $23,200 raise for themselves	=	"pay equalization concept"
U.S. Government economic report		
recession	=	"meaningful downturn in aggregate output"
Several foreign governments		
assassinations	=	"active self-defense," "interception"
terrorist	=	"freedom fighter"
torture	=	"moderate physical pressure"

Companies are acutely sensitive to the power of language and often try to shape public perceptions and attitudes through the words they use to communicate. For example, consider the following excerpt from a *New York Times* article by John Schwartz that describes the decision by cigarette maker Philip Morris to change its name to "Altria Group." What euphemistic meanings do you think the company was trying to capture? Do you think it made a good choice? Why or why not? If you were the CEO of Philip Morris, what other names might you have considered?

> Philip Morris, the owner of one of the world's best-known corporate names, plans to change that name next year to the Altria Group, company executives said yesterday.
>
> The new name, which is subject to approval by shareholders at the company's annual meeting next April, is drawn from the Latin word "altus," meaning "high," and is supposed to suggest high performance, said Steven C. Parrish, the company's senior vice president for corporate affairs, in an interview at the company's headquarters in New York. . . .
>
> "Call for Altria" doesn't have the ring of the company's "Call for Philip Morrrrrr-isssss!" slogan from radio's golden age. But that might be the point. The company has taken this action, its executives say, to reduce the drag on the company's reputation that association with the world's most famous cigarette maker has caused.

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"When people say 'Philip Morris,' people don't know which company you're talking about," Mr. Parrish said. "We're more than a tobacco company, obviously, but there are a lot of people who don't understand that."

"They are running away from tobacco," countered David A. Kessler, former commissioner of the Food and Drug Administration and now the dean of the medical school at Yale University. . . .

A longtime opponent of the tobacco industry, however, said a new name would not change the fact that Philip Morris's Marlboro cigarettes are by far the favorite brand of underage smokers. "It's sort of like the line from the Dragnet TV show, 'This story is true, but the names have been changed to protect the innocent,'" said Matthew L. Myers, president of the National Center for Tobacco-Free Kids. "In this case it's 'The story is true, but the names have been changed to protect the guilty.'" In the end, he said, "this is quintessential Philip Morris practice.

"Instead of changing its business practices, Philip Morris has chosen a public relations campaign to divert attention away from what it does." . . .

—John Schwartz, *The New York Times*

Thinking Activity 6.8

ANALYZING EUPHEMISMS

Read the following essay by linguistics professor Robin Tolmach Lakoff about the use of euphemism to dehumanize the "enemy" in times of war. In what ways did George Orwell (see page 233) predict the use of euphemism to make the human costs of warfare more politically palatable? Can you think of other social policies with direct human consequences that are discussed, by politicians or the media, in euphemistic terms? Identify several euphemisms used to describe a policy or issue and explain how the euphemisms can lead to dangerous misperceptions and consequences. (For further discussion of how language can be used to influence, suppress, or direct behavior, see "Thinking Passages: Critical Thinking and Obedience to Authority" in Chapter 11.)

Ancient Greece to Iraq, the Power of Words in Wartime

by Robin Tolmach Lakoff

An American soldier refers to an Iraqi prisoner as "it." A general speaks not of "Iraqi fighters" but of "the enemy." A weapons manufacturer doesn't talk about people but about "targets."

Source: From "Ancient Greece to Iraq, the Power of Words in Wartime," by Robin Tolmach Lakoff. Copyright © 2004 by The New York Times Co. Reprinted by permission.

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Bullets and bombs are not the only tools of war. Words, too, play their part.

Human beings are social animals, genetically hard-wired to feel compassion toward others. Under normal conditions, most people find it very difficult to kill.

But in war, military recruits must be persuaded that killing other people is not only acceptable but even honorable.

The language of war is intended to bring about that change, and not only for soldiers in the field. In wartime, language must be created to enable combatants and noncombatants alike to see the other side as killable, to overcome the innate queasiness over the taking of human life. Soldiers, and those who remain at home, learn to call their enemies by names that make them seem not quite human—inferior, contemptible and not like "us."

The specific words change from culture to culture and war to war. The names need not be obviously demeaning. Just the fact that we can name them gives us a sense of superiority and control. If, in addition, we give them nicknames, we can see them as smaller, weaker and childlike—not worth taking seriously as fully human.

The Greeks and Romans referred to everyone else as "barbarians"—etymologically those who only babble, only go "bar-bar." During the American Revolution, the British called the colonists "Yankees," a term with a history that is still in dispute. While the British intended it disparagingly, the Americans, in perhaps the first historical instance of reclamation, made the word their own and gave it a positive spin, turning the derisive song "Yankee Doodle" into our first, if unofficial, national anthem.

In World War I, the British gave the Germans the nickname "Jerries," from the first syllable of German. In World War II, Americans referred to the Japanese as "Japs."

The names may refer to real or imagined cultural and physical differences that emphasize the ridiculous or the repugnant. So in various wars, the British called the French "Frogs." Germans have been called "Krauts," a reference to weird and smelly food. The Vietnamese were called "slopes" and "slants." The Koreans were referred to simply as "gooks."

The war in Iraq has added new examples. Some American soldiers refer to the Iraqis as "hadjis," used in a derogatory way, apparently unaware that the word, which comes from the Arabic term for a pilgrimage to Mecca, is used as a term of respect for older Muslim men.

The Austrian ethologist Konrad Lorenz suggested that the more clearly we see other members of our own species as individuals, the harder we find it to kill them.

So some terms of war are collective nouns, encouraging us to see the enemy as an undifferentiated mass, rather than as individuals capable of suffering.

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Crusaders called their enemy "the Saracen," and in World War I, the British called Germans "the Hun."

American soldiers are trained to call those they are fighting against "the enemy." It is easier to kill an enemy than an Iraqi. The word "enemy" itself provides the facelessness of a collective noun. Its non-specificity also has a fear-inducing connotation; enemy means simply "those we are fighting," without reference to their identity.

The terrors and uncertainties of war make learning this kind of language especially compelling for soldiers on the front. But civilians back home also need to believe that what their country is doing is just and necessary, and that the killing they are supporting is in some way different from the killing in civilian life that is rightly punished by the criminal justice system. The use of the language developed for military purposes by civilians reassures them that war is not murder.

The linguistic habits that soldiers must absorb in order to fight make atrocities like those at Abu Ghraib virtually inevitable. The same language that creates a psychological chasm between "us" and "them" and enables American troops to kill in battle, makes enemy soldiers fit subjects for torture and humiliation. The reasoning is: They are not really human, so they will not feel the pain.

Once language draws that line, all kinds of mistreatment become imaginable, and then justifiable. To make the abuses at Abu Ghraib unthinkable, we would have to abolish war itself.

Emotive Language

What is your *immediate* reaction to the following words?

sexy	peaceful	disgusting	God
mouthwatering	bloodthirsty	whore	Nazi
		filthy	

Most of these words probably stimulate certain feelings in you. In fact, this ability to evoke feelings in people accounts for the extraordinary power of language. As a stark illustration of the way people (in this case, politicians) use language to manipulate emotions, a political action committee named Gopac distributed a booklet several years ago entitled "Language: A Key Mechanism of Control" to the candidates they supported. The booklet urged members of Congress to use words like "environment, peace, freedom, fair, flag, we-us-our, family, and humane" when speaking of themselves. When speaking of opponents, words like "betray, sick, pathetic, lie, liberal, hypocrisy, permissive attitude, and self-serving" were preferable. Think of a recent election: Do you recall candidates following these linguistic suggestions?

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Making sense of the way that language can influence your thinking and behavior means understanding the emotional dimension of language. Special words (like those just listed) are used to stand for the emotive areas of your experience. These emotive words symbolize the whole range of human feelings, from powerful emotions ("I adore you!") to the subtlest of feeling.

Emotive language often plays a double role—it not only symbolizes and expresses our feelings but also arouses or evokes feelings in others. When you say, "I love you" to someone, you usually are not simply expressing your feelings toward that person—you also hope to inspire similar feelings in that person toward you. Even when you are communicating factual information, you make use of the emotive influence of language to interest other people in what you are saying. For example, compare the factually more objective account by the *New York Times* of Malcolm X's assassination with the more emotive/action account by *Life* magazine (pages 125–126). Which account do you find more engaging? Why?

Although an emotive statement may be an *accurate* description of how you feel, it is *not* the same as a factual statement because it is true only for you—not for others. For instance, even though you may feel that a movie is tasteless and repulsive, someone else may find it exciting and hilarious. By describing your feelings about the movie, you are giving your personal evaluation, which often differs from the personal evaluations of others (consider the case of conflicting reviews of the same movie). A factual statement, in contrast, is a statement with which all "rational" people will agree, providing that suitable evidence for its truth is available (for example, the fact that mass transit uses less energy than automobiles).

In some ways, symbolizing your emotions is more difficult than representing factual information about the world. Expressing your feelings toward a person you know well often seems considerably more challenging than describing facts about that person.

When emotive words are used in larger groups (such as in sentences, paragraphs, compositions, poems, plays, novels), they become even more powerful. The pamphlets of Thomas Paine helped inspire American patriots during the Revolutionary War, and Abraham Lincoln's Gettysburg Address has endured as an expression of our most cherished values. In fact, it was the impassioned oratory of Adolf Hitler that helped influence the German people before and during World War II.

One way to think about the meaning and power of emotive words is to see them on a scale or continuum from mild to strong. For example: *plump, fat, obese.* Philosopher Bertrand Russell used this feature of emotive words to show how we perceive the same trait in various people:

- I am firm.
- You are stubborn.
- He or she is pigheaded.

We usually tend to perceive ourselves favorably ("I am firm"). I am speaking to you face to face, so I view you only somewhat less favorably ("You are stubborn"). But

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since a third person is not present, you can use stronger emotive language ("He or she is pigheaded"). Try this technique with two other emotive words:

1. I am. . . . You are. . . . He or she is. . . .
2. I am. . . . You are. . . . He or she is. . . .

Finally, emotive words can be used to confuse opinions with facts, a situation that commonly occurs when we combine emotive uses of language with informative uses. Although people may appear to be giving *factual* information, they actually may be adding personal evaluations that are not factual. These opinions are often emotional, biased, unfounded, or inflammatory. Consider the following statement: "New York City is a filthy and dangerous pigpen—only idiots would want to live there." Although the speaker is pretending to give factual information, he or she is really using emotive language to advance an opinion. But emotive uses of language are not always negative. The statement "She's the most generous, wise, honest, and warm friend that a person could have" also illustrates the confusion of the emotive and the informative uses of language, except that in this case the feelings are positive.

The presence of emotive words is usually a sign that a personal opinion or evaluation rather than a fact is being stated. Speakers occasionally do identify their opinions as opinions with such phrases as "In my opinion . . ." or "I feel that. . . ." Often, however, speakers do *not* identify their opinions as opinions because they *want* you to treat their judgments as *facts*. In these cases the combination of the informative use of language with the emotive use can be misleading and even dangerous.

Thinking Activity 6.9

ANALYZING EMOTIVE LANGUAGE

Identify examples of emotive language in the following passages, and explain how it is used by the writers to influence people's thoughts and feelings:

> I draw the line in the dust and toss the gauntlet before the heel of tyranny, and I say segregation now, segregation tomorrow, segregation forever.
>
> —Governor George C. Wallace, 1963

> We dare not forget today that we are heirs of that first revolution. Let the word go forth from this time and place, to friend and foe alike, that the torch has been passed to a new generation of Americans—born in this century, tempered by war, disciplined by a hard and bitter peace, proud of our ancient heritage—and unwilling to witness or permit the slow undoing of those human rights to which this nation has always been committed, and to which we are committed today at home and around the world.
>
> —President John F. Kennedy, Inaugural Address, 1961

> Every criminal, every gambler, every thug, every libertine, every girl ruiner, every home wrecker, every wife beater, every dope peddler, every moonshiner, every crooked politician, every pagan Papist priest, every shyster lawyer, every white

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slaver, every brothel madam, every Rome-controlled newspaper, every black spider—is fighting the Klan. Think it over. Which side are you on?

—from a Ku Klux Klan circular

We need another and a wiser and perhaps a more mystical concept of animals. Remote from universal nature, and living by complicated artifice, man in civilization surveys the creature through the glass of his knowledge and sees thereby a feather magnified and the whole image in distortion. We patronize them for their incompleteness, for their tragic fate of having taken form so far below ourselves. And therein we err, and greatly err. For the animal shall not be measured by man. In a world older and more complete than ours they move finished and complete, gifted with extensions of the senses you have lost or never attained, living by voices you shall never hear. They are not brethren, they are not underlings; they are other nations, caught with ourselves in the net of life and time, fellow prisoners of the splendour and travail of the earth.

—Henry Beston, *The Outermost House*

Thinking Passages

PERSUADING WITH POLITICAL SPEECHES

The central purpose of political speeches has traditionally been to persuade listeners to a particular point of view, using language as the vehicle. This has never been more true than in times of war or national crisis.

ONLINE RESOURCES
Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** to read excerpts from political speeches given at critical moments of history by the individuals listed below.

- President Franklin D. Roosevelt speaking after the attack on Pearl Harbor by the Japanese military
- Prime Minister Winston Churchill speaking after the invasion and defeat of most of the countries of Western Europe by Hitler's military
- President George W. Bush speaking ten days following the terrorist attacks on the World Trade Center and the Pentagon
- Prime Minister Tony Blair speaking several weeks after the terrorist attacks
- Al Qaeda leader Osama bin Laden's videotaped comments released worldwide several days following the terrorist attacks

After reading the selections on the student website, also answer the questions at the conclusion of the readings.

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Thinking Activity 6.10

HOW EMAIL CHANGES COMMUNICATION

Elsewhere in this text we have looked at the differences between expressing ourselves in writing and expressing ourselves orally. When we express ourselves in writing, our audience is not able to hear our vocal inflections or see our gestures and body language. The impression we make depends completely upon what we write.

The same holds true for the use of electronic mail, which has changed the way many people communicate at work, in social settings, in the classroom, and at home.

- What are some of the differences between communicating via email, the spoken word, or another form of writing?
- Do you think an email is easier to misunderstand than other styles of writing? Why or why not?

Have you ever

- Received an email you thought was sarcastic, cruel, or too blunt?
- Sent one that was misinterpreted?
- Gotten "hoax" virus warnings?
- Gotten chain letters promising unbelievable rewards?
- Received jokes you didn't want?

In your opinion, has the popularity of email changed the nature or frequency of these kinds of messages as compared to paper mail? If so, how has that happened?

How Do You "Come Across"?

Have you noticed that you speak differently to different groups of people in different situations? Depending upon whether and where you work, you may notice that your choice of words and even grammatical constructions vary from those you use when speaking with, for example, family members. For that matter, how you speak to children is probably different from how you speak to siblings or to parents and other elders. You have a different "speaking personality" in different situations.

What different email personalities do you have? What steps can you take to ensure that you come across as you intend when you use email?

Final Thoughts

This chapter on language explores the essential role of language in developing sophisticated thinking abilities. The goal of clear, effective thinking and communication—avoiding ambiguity and vagueness—is accomplished through the joint efforts of thought and language. Learning to use the appropriate language style, depending on the social context in which you are operating, requires both critical judgment and flexible expertise with various language forms. Critically evaluating the pervasive

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attempts of advertisers and others to bypass your critical faculties and influence your thinking involves insight into the way language and thought create and express meaning.

Its link with thinking makes language so powerful a tool that we not only rely on it as a vehicle for expressing our thoughts and feelings and for influencing others, but we also use language to provide a structure for learning. Like a choreographer who creates a dance, language shapes and forms our thoughts. It organizes them. It relates one idea to another so that their combinations, many and varied, can be reported with strength and vitality, creating meaning that no one idea could convey alone. Used expertly, language expresses our thinking in a way that clearly evokes the images, feelings, and ideas that we as speakers and writers want to present. It also communicates our thinking in such a way that others can comprehend our meaning, in turn making appropriate inferences and judgments and thereby expanding their own thinking. We will be examining these further relationships between language and thought in the ensuing chapters.

Thinking Passage

GENDER DIFFERENCES IN LANGUAGE

Recently, gender differences in language use have reached the forefront of social research, even though variations in language use between the sexes have been observed for centuries. Proverbs such as "A woman's tongue wags like a lamb's tail" historically attest to supposed differences—usually inferiorities—in women's speech and, by implication, in their thinking when compared with men's. Vocabulary, swearing and use of taboo language, pronunciation, and verbosity have all been said to illustrate gender differences in language. Only within the last two decades, however, have scholars of the social use of language paid serious attention to the variation between men's and women's language and the social factors that contribute to these differences. The following passage from the work of Deborah Tannen reflects the current interest in sociolinguistic variations between the "languages" used by women and men. After reading the selection, answer the questions that follow.

Sex, Lies and Conversation: Why Is It So Hard for Men and Women to Talk to Each Other?

by Deborah Tannen

I was addressing a small gathering in a suburban Virginia living room—a women's group that had invited men to join them. Throughout the evening, one man had been particularly talkative, frequently offering ideas and anecdotes,

Source: "Sex, Lies and Conversation" by Deborah Tannen, *Washington Post,* June 14, 1990. Reprinted by permission of the author.

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Visual Thinking

"You're Not Going to Believe This. . . ."
Each of us uses a variety of communication styles in our lives, depending on the people we're with. What is the communication style displayed in this photo? What are some of the communication styles that you use on a regular basis? How would you communicate the same message to different audiences?

while his wife sat silently beside him on the couch. Toward the end of the evening, I commented that women frequently complain that their husbands don't talk to them. This man quickly concurred. He gestured toward his wife and said, "She's the talker in our family." The room burst into laughter; the man looked puzzled and hurt. "It's true," he explained. "When I come home from work I have nothing to say. If she didn't keep the conversation going, we'd spend the whole evening in silence."

This episode crystallizes the irony that although American men tend to talk more than women in public situations, they often talk less at home. And this pattern is wreaking havoc with marriage.

The pattern was observed by political scientist Andrew Hacker in the late '70s. Sociologist Catherine Kohler Riessman reports in her new book *Divorce Talk* that most of the women she interviewed—but only a few of the men—gave lack of communication as the reason for their divorces. Given the current divorce rate of nearly 50 percent, that amounts to millions of cases in the United States every year—a virtual epidemic of failed conversation.

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In my own research, complaints from women about their husbands most often focused not on tangible inequities such as having given up the chance for a career to accompany a husband to his, or doing far more than their share of daily life-support work like cleaning, cooking, social arrangements and errands. Instead, they focused on communication: “He doesn’t listen to me,” “He doesn’t talk to me.” I found, as Hacker observed years before, that most wives want their husbands to be, first and foremost, conversational partners, but few husbands share this expectation of their wives.

In short, the image that best represents the current crisis is the stereotypical cartoon scene of a man sitting at the breakfast table with a newspaper held up in front of his face, while a woman glares at the back of it, wanting to talk.

Linguistic Battle of Sexes

How can women and men have such different impressions of communication in marriage? Why the widespread imbalance in their interests and expectations?

In the April issue of *American Psychologist,* Stanford University’s Eleanor Maccoby reports the results of her own and others’ research showing that children’s development is most influenced by the social structure of peer interactions. Boys and girls tend to play with children of their own gender, and their sex-separate groups have different organizational structures and interactive norms.

I believe these systematic differences in childhood socialization make talk between women and men like cross-cultural communication, heir to all the attraction and pitfalls of that enticing but difficult enterprise. My research on men’s and women’s conversations uncovered patterns similar to those described for children’s groups.

For women, as for girls, intimacy is the fabric of relationships, and talk is the thread from which it is woven. Little girls create and maintain friendships by exchanging secrets; similarly, women regard conversation as the cornerstone of friendship. So a woman expects her husband to be a new and improved version of a best friend. What is important is not the individual subjects that are discussed but the sense of closeness, a life shared, that emerges when people tell their thoughts, feelings, and impressions.

Bonds between boys can be as intense as girls’, but they are based less on talking, more on doing things together. Since they don’t assume talk is the cement that binds a relationship, men don’t know what kind of talk women want, and they don’t miss it when it isn’t there.

Boys’ groups are larger, more inclusive, and more hierarchical, so boys must struggle to avoid the subordinate position in the group. This may play a role in women’s complaints that men don’t listen to them. Some men really don’t like to listen, because being the listener makes them feel one-down, like a child listening to adults or an employee to a boss.

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But often when women tell men, "You aren't listening," and the men protest, "I am," the men are right. The impression of not listening results from misalignments in the mechanics of conversation. The misalignment begins as soon as a man and a woman take physical positions. This became clear when I studied videotapes made by psychologist Bruce Dorval of children and adults talking to their same-sex best friends. I found that at every age, the girls and women faced each other directly, their eyes anchored on each other's faces. At every age, the boys and men sat at angles to each other and looked elsewhere in the room, periodically glancing at each other. They were obviously attuned to each other, often mirroring each other's movements. But the tendency of men to face away can give women the impression they aren't listening even when they are. A young woman in college was frustrated: Whenever she told her boyfriend she wanted to talk to him, he would lie down on the floor, close his eyes, and put his arm over his face. This signaled to her, "He's taking a nap." But he insisted he was listening extra hard. Normally, he looks around the room, so he is easily distracted. Lying down and covering his eyes helped him concentrate on what she was saying.

Analogous to the physical alignment that women and men take in conversation is their topical alignment. The girls in my study tended to talk at length about one topic, but the boys tended to jump from topic to topic. Girls exchanged stories about people they knew. The second-grade boys teased, told jokes, noticed things in the room and talked about finding games to play. The sixth-grade girls talked about problems with a mutual friend. The sixth-grade boys talked about *55* different topics, none of which extended over more than a few turns.

Listening to Body Language

Switching topics is another habit that gives women the impression men aren't listening, especially if they switch to a topic about themselves. But the evidence of the 10th-grade boys in my study indicates otherwise. The 10th-grade boys sprawled across their chairs with bodies parallel and eyes straight ahead, rarely looking at each other. They looked as if they were riding in a car, staring out the windshield. But they were talking about their feelings. One boy was upset because a girl had told him he had a drinking problem, and the other was feeling alienated from all his friends.

Now, when a girl told a friend about a problem, the friend responded by asking probing questions and expressing agreement and understanding. But the boys dismissed each other's problems. Todd assured Richard that his drinking was "no big problem" because "sometimes you're funny when you're off your butt." And when Todd said he felt left out, Richard responded, "Why should you? You know more people than me."

Women perceive such responses as belittling and unsupportive. But the boys seemed satisfied with them. Whereas women reassure each other by implying,

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"You shouldn't feel bad because I've had similar experiences," men do so by implying, "You shouldn't feel bad because your problems aren't so bad."

There are even simpler reasons for women's impression that men don't listen. Linguist Lynette Hirschman found that women make more listener-noise, such as "mhm," "uhuh," and "yeah," to show "I'm with you." Men, she found, more often give silent attention. Women who expect a stream of listener-noise interpret silent attention as no attention at all.

Women's conversational habits are as frustrating to men as men's are to women. Men who expect silent attention interpret a stream of listener-noise as overreaction or impatience. Also, when women talk to each other in a close, comfortable setting, they often overlap, finish each other's sentences and anticipate what the other is about to say. This practice, which I call "participatory listenership," is often perceived by men as interruption, intrusion and lack of attention.

A parallel difference caused a man to complain about his wife, "She just wants to talk about her own point of view. If I show her another view, she gets mad at me." When most women talk to each other, they assume a conversationalist's job is to express agreement and support. But many men see their conversational duty as pointing out the other side of an argument. This is heard as disloyalty by women, and refusal to offer the requisite support. It is not that women don't want to see other points of view, but that they prefer them phrased as suggestions and inquiries rather than as direct challenges.

In his book *Fighting for Life,* Walter Ong points out that men use "agonistic," or warlike, oppositional formats to do almost anything; thus discussion becomes debate, and conversation a competitive sport. In contrast, women see conversation as a ritual means of establishing rapport. If Jane tells a problem and June says she has a similar one, they walk away feeling closer to each other. But this attempt at establishing rapport can backfire when used with men. Men take too literally women's ritual "troubles talk," just as women mistake men's ritual challenges for real attack.

The Sounds of Silence

These differences begin to clarify why women and men have such different expectations about communication in marriage. For women, talk creates intimacy. Marriage is an orgy of closeness: you can tell your feelings and thoughts, and still be loved. Their greatest fear is being pushed away. But men live in a hierarchical world, where talk maintains independence and status. They are on guard to protect themselves from being put down and pushed around.

This explains the paradox of the talkative man who said of his silent wife, "She's the talker." In the public setting of a guest lecture, he felt challenged to show his intelligence and display his understanding of the lecture. But at home, where he has nothing to prove and no one to defend against, he is free to remain silent. For his wife, being home means she is free from the worry that something

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she says might offend someone, or spark disagreement, or appear to be showing off; at home she is free to talk.

The communication problems that endanger marriage can't be fixed by mechanical engineering. They require a new conceptual framework about the role of talk in human relationships. Many of the psychological explanations that have become second nature may not be helpful, because they tend to blame either women (for not being assertive enough) or men (for not being in touch with their feelings). A sociolinguistic approach by which male-female conversation is seen as cross-cultural communication allows us to understand the problem and forge solutions without blaming either party.

Once the problem is understood, improvement comes naturally, as it did to the young woman and her boyfriend who seemed to go to sleep when she wanted to talk. Previously, she had accused him of not listening, and he had refused to change his behavior, since that would be admitting fault. But then she learned about and explained to him the differences in women's and men's habitual ways of aligning themselves in conversation. The next time she told him she wanted to talk, he began, as usual, by lying down and covering his eyes. When the familiar negative reaction bubbled up, she reassured herself that he really was listening. But then he sat up and looked at her. Thrilled, she asked why. He said, "You like me to look at you when you talk, so I'll try to do it." Once he saw their differences as cross-cultural rather than right and wrong, he independently altered his behavior.

Women who feel abandoned and deprived when their husbands won't listen to or report daily news may be happy to discover their husbands trying to adapt once they understand the place of small talk in women's relationships. But if their husbands don't adapt, the women may still be comforted that for men, this is not a failure of intimacy. Accepting the difference, the wives may look to their friends or family for that kind of talk. And husbands who can't provide it shouldn't feel their wives have made unreasonable demands. Some couples will still decide to divorce, but at least their decisions will be based on realistic expectations.

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In these times of resurgent ethnic conflicts, the world desperately needs cross-cultural understanding. Like charity, successful cross-cultural communication should begin at home.

Questions for Analysis

1. Identify the distinctive differences between the communication styles of men and women, according to Deborah Tannen, and explain how these differences can lead to miscommunication and misunderstanding.
2. Based on your experience, explain whether you believe Dr. Tannen's analysis of these different communication styles is accurate. Provide specific examples to support your viewpoint.
3. Describe a situation in which you had a miscommunication with a person of the opposite sex. Analyze this situation based on what you read in Tannen's article.
4. Identify strategies that both men and women can use to help avoid the miscommunication that can result from these contrasting styles.

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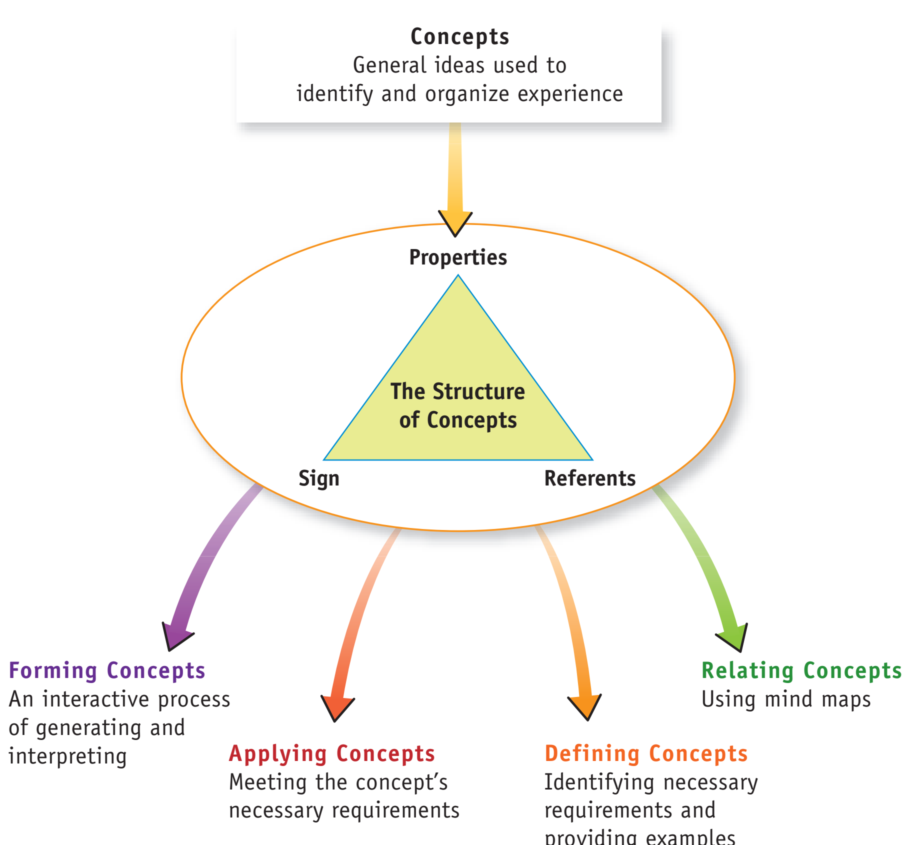
Forming and Applying Concepts

7



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Developing your abilities as a thoughtful, clear-thinking, and articulate critical thinker entails becoming an expert in the use of "concepts." Why? Because *concepts* are the vocabulary of thought; they are the vehicles that we use to think about our world in organized ways and discuss our understanding with others. To become knowledgeable critical thinkers and effective users of language, we must necessarily become masters of concepts.

We live in a world filled with concepts. A large number of the words you use to represent your experience express concepts you have formed. *Music download, person, education, computer, sport, situation comedy, elated,* and *thinking* are only a few examples of concepts. Your academic study involves learning new concepts as well, and to be successful in college and your career, you need to master the conceptualizing process. For example, when you read textbooks or listen to lectures and take notes, you are required to grasp the key concepts and follow them as they are developed and supported. When you write papers or homework assignments, you are usually expected to focus on certain concepts, develop a thesis around them, present the thesis (itself a concept!) with carefully argued points, and back it up with specific examples. Many course examinations involve applying key concepts you have learned to new sets of circumstances.

What Are Concepts?

Concepts are general ideas you use to organize your experience and, in so doing, bring order and intelligibility to your life. In the same way that words are the vocabulary of language, concepts are the vocabulary of thought. As organizers of your experience, concepts work in conjunction with language to identify, describe, distinguish, and relate all the various aspects of your world.

concepts General ideas that we use to identify and organize our experience

To become a sophisticated thinker, you must develop expertise in the conceptualizing process, improving your ability to *form, apply, define,* and *relate* concepts. This complex conceptualizing process is going on all the time in your mind, enabling you to think in a distinctly human way.

How do you use concepts to organize and make sense of experience? Think back to the first day of the semester. For most students, this is a time to evaluate their courses by trying to determine which concepts apply.

- Will this course be interesting? Useful? A lot of work?
- Is the teacher stimulating? Demanding? Entertaining?
- Are the students friendly? Intelligent? Conscientious?

Each of these words or phrases represents a concept you are attempting to apply so that you can understand what is occurring at the moment and also anticipate

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what the course will be like in the future. As the course progresses, you gather further information from your actual experiences in the class. This information may support your initial concepts, or it may conflict with these initial concepts. If the information you receive supports these concepts, you tend to maintain them ("Yes, I can see that this is going to be a difficult course"). But if the information you receive conflicts with these concepts, you tend to form new concepts to explain the situation ("No, I can see that I was wrong—this course isn't going to be as difficult as I thought at first"). A diagram of this process might look something like this:

Experience: Attending the first day of class

↓

leads to

↓

Applying a concept to explain the situation: This course will be very difficult, and I might not do very well.

↓

leads to

↓

Looking for information to support or conflict with my concept

↙ ↘

Supporting information	*Conflicting information*
The teacher is very demanding.	I find that I am able to keep up with the work.
There are lots of writing assignments.	↓ leads to ↓
The reading is challenging.	Forming a new concept to explain the situation: This course is difficult, but I will be able to handle the work and do well.
	↓ leads to ↓
	Action: I'm going to remain in the course, work to the best of my ability, and expect to do well.

To take another example, imagine that you are a physician and that one of your patients comes to you complaining of shortness of breath and occasional pain in his left arm. After he describes his symptoms, you would ask a number of questions,

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examine him, and perhaps administer some tests. Your ability to *identify* the underlying problem would depend on your knowledge of various human diseases. Each disease is identified and described by a different concept. Identifying these various diseases means that you can *distinguish* different concepts and that you know in what situations to apply a given concept correctly. In addition, when the patient asks, "What's wrong with me, doctor?" you are able to describe the concept (for example, heart disease) and explain how it is related to his symptoms. Fortunately, modern medicine has developed (and is continuing to develop) remarkably precise concepts to describe and explain the diseases that afflict us. In the patient's case, you may conclude that the problem is heart disease. Of course, there are different kinds of heart disease, represented by different concepts, and success in treating the patient will depend on figuring out exactly which type of heart disease is involved.

Thinking Activity 7.1

FORMING NEW CONCEPTS THROUGH EXPERIENCE

Identify an initial concept you had about an event in your life (starting a new job, attending college, and so on) that changed as a result of your experiences. After identifying your initial concept, describe the experiences that led you to change or modify the concept, and then explain the new concept you formed to explain the situation. Your response should include the following elements: *an initial concept, new information provided by additional experiences,* and *a new concept formed to explain the situation.*

Learning to master concepts will help you in every area of your life: academic, career, and personal. In college study, each academic discipline or subject is composed of many different concepts that are used to organize experience, give explanations, and solve problems. Here is a sampling of college-level concepts: *entropy, subtext, Gemeinschaft, cell, metaphysics, relativity, unconscious, transformational grammar, aesthetic, minor key, interface, health, quantum mechanics, schizophrenia.* To make sense of how disciplines function, you need to understand what the concepts of that discipline mean, how to apply them, and the way they relate to other concepts. You also need to learn the methods of investigation, patterns of thought, and forms of reasoning that various disciplines use to form larger conceptual theories and methods. We will be exploring these subjects in the next several chapters of the text.

Regardless of specific knowledge content, all careers require conceptual abilities, whether you are trying to apply a legal principle, develop a promotional theme, or devise a new computer program. Similarly, expertise in forming and applying concepts helps you make sense of your personal life, understand others, and make informed decisions. The Greek philosopher Aristotle once said that the intelligent person is a "master of concepts."

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The Structure of Concepts

Concepts are general ideas you use to identify, distinguish, and relate the various aspects of your experience. Concepts allow you to organize your world into patterns that make sense to you. This is the process by which you discover and create meaning in your life.

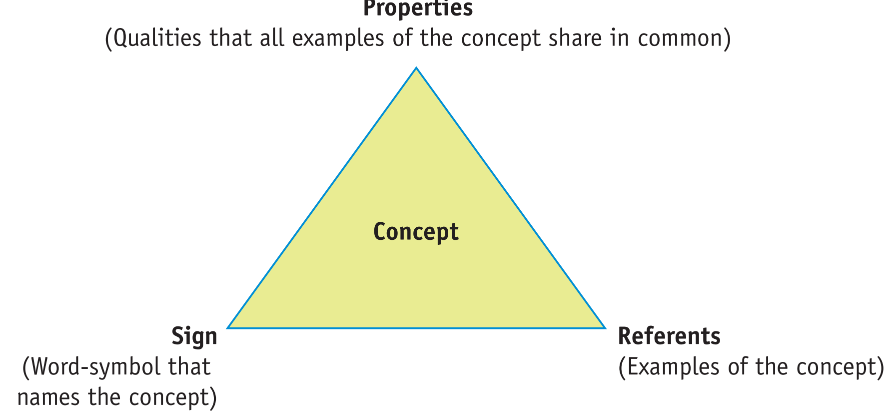
In their role as organizers of experience, concepts act to group aspects of your experience based on their similarity to one another. Consider the thing that you usually write with: a pen. The concept *pen* represents a type of object that you use for writing. But look around the classroom at all the other instruments people are using to write with. You use the concept *pen* to identify these things as well, even though they may look very different from the one you are using.

Thus, the concept *pen* not only helps you make distinctions in your experience by indicating how pens differ from pencils, crayons, or magic markers, but also helps you determine which items are similar enough to each other to be called *pens.* When you put items into a group with a single description—like “pen”—you are focusing on the similarities among the items:

- They use ink.
- They are used for writing.
- They are held with a hand.

Being able to see and name the similarities among certain things in your experience is the way you form concepts and is crucial for making sense of your world. If you were not able to do this, then everything in the world would be different, with its own individual name.

The process by which you group things based on their similarities is known as *classifying.* The process of classifying is one of the main ways that you order, organize, and make sense of your world. Because no two things or experiences are exactly alike, your ability to classify things into various groups is what enables you to recognize things in your experience. When you perceive a pen, you recognize it as a *kind of thing* you have seen before. Even though you may not have seen this particular pen, you recognize that it belongs to a group of things that you are familiar with.



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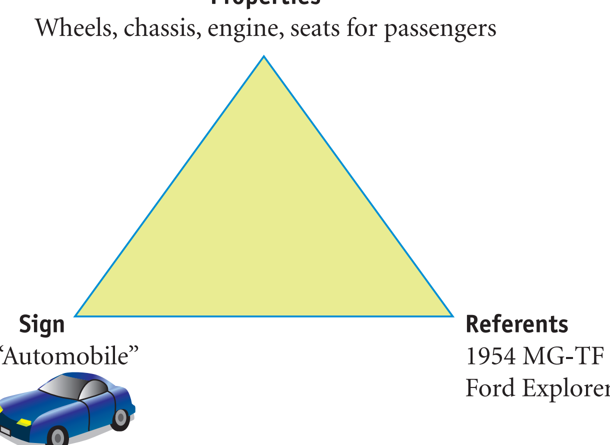
The best way to understand the structure of concepts is to visualize them by means of a model. Examine the following figure:

The *sign* is the word or symbol used to name or designate the concept; for example, the word *triangle* is a sign. The *referents* represent all the various examples of the concept; the three-sided figure we are using as our model is an example of the concept *triangle.* The *properties* of the concept are the features that all things named by the word or sign have in common; all examples of the concept *triangle* share the characteristics of being a polygon and having three sides. These are the properties that we refer to when we *define* concepts; thus, "a triangle is a three-sided polygon."

Let's take another example. Suppose you wanted to explore the structure of the concept *automobile.* The *sign* that names the concept is the word *automobile* or the symbol 🚗. *Referents* of the concept include the 1954 MG-TF currently residing in the garage as well as the Ford Explorer parked in front of the house. The *properties* that all things named by the sign *automobile* include are wheels, a chassis, an engine, and seats for passengers. The following figure is a conceptual model of the concept *automobile:*



Thinking Activity 7.2

DIAGRAMMING THE STRUCTURE OF CONCEPTS

Using the model we have developed, diagram the structure of the following concepts, as well as two concepts of your own choosing: *table, dance, successful, student, religion, music, friend,* ______________, ______________.

Forming Concepts

Throughout your life you are engaged in the process of forming—and applying—concepts to organize your experience, make sense of what is happening at the moment, and anticipate what may happen in the future. You form concepts by the interactive process

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of *generalizing* (focusing on the common properties shared by a group of things) and *interpreting* (finding examples of the concept). The common properties form the necessary requirements that must be met in order to apply the concept to your experience. If you examine the diagrams of concepts in the last section, you can see that the process of forming concepts involves moving back and forth between the *referents* (examples) of the concept and the *properties* (common features) shared by all examples of the concept. Let's explore further the way this interactive process of forming concepts operates.

Consider the following sample conversation between two people trying to form and clarify the concept *philosophy:*

A: What is your idea of what *philosophy* means?

B: Well, I think philosophy involves expressing important beliefs that you have—like discussing the meaning of life, assuming that there is a meaning.

A: Is explaining my belief about who's going to win the Super Bowl engaging in philosophy? After all, this is a belief that is very important to me—I've got a lot of money riding on the outcome!

B: I don't think so. A philosophical belief is usually a belief about something that is important to everyone—like what standards we should use to guide our moral choices.

A: What about the message that was in my fortune cookie last night: "Eat, drink, and be merry, for tomorrow we diet!"? This is certainly a belief that most people can relate to, especially during the holiday season! Is this philosophy?

B: I think that's what my grandmother used to call "foolosophy"! Philosophical beliefs are usually deeply felt views that we have given a great deal of thought to—not something plucked out of a cookie.

A: What about my belief in the Golden Rule: "Do unto others as you would have them do unto you"? After all, we all want to be treated well by others, and it's only fair—and reasonable—to conclude that we should treat other people the same way. Doesn't that have all of the qualities that you mentioned?

B: *Now* you've got it!

As we review this dialogue, we can see that *forming* the concept *philosophical belief* works hand in hand with *applying* the concept to different examples. When two or more things work together in this way, we say that they interact. In this case, there are two parts of this interactive process.

We form concepts by **generalizing,** by focusing on the similar features among different things. In the dialogue just given, the things from which generalizations are being made are kinds of beliefs—beliefs about the meaning of life or standards we use to guide our moral choices. By focusing on the similar features among these beliefs, the two people in the dialogue develop a list of properties that philosophical beliefs share, including

- Beliefs that deal with important issues in life about which everyone is concerned
- Beliefs that reflect deeply felt views to which we have given a great deal of thought

These common properties act as the requirements an area must meet to be considered a philosophical belief.

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generalizing Focusing on certain similar features among things to develop the requirements for the concept

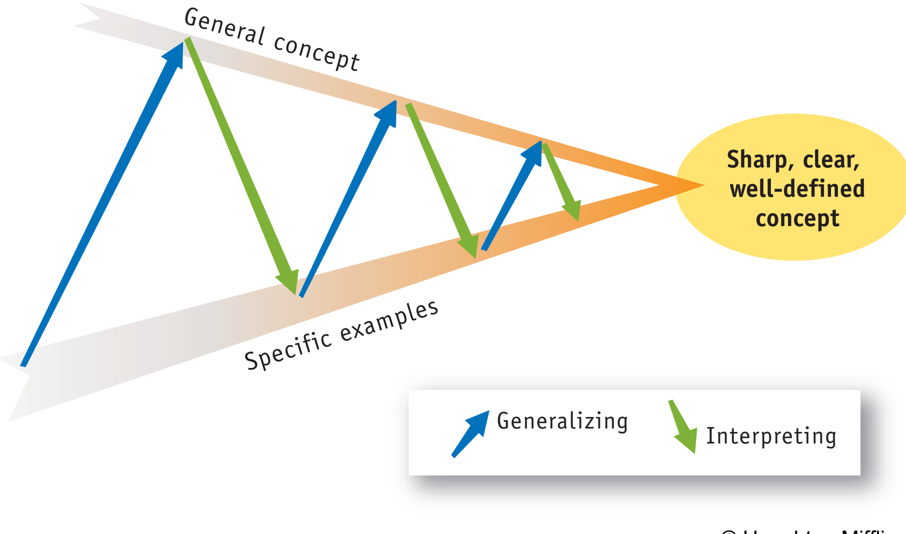
We apply concepts by **interpreting**, by looking for different examples of the concept and seeing if they meet the requirements of the concept we are developing. In the conversation, one of the participants attempts to apply the concept *philosophical belief* to the following examples:

- A belief about the outcome of the Super Bowl
- A fortune cookie message: "Eat, drink, and be merry, for tomorrow we diet!"

interpreting Looking for different things to apply the concept to in order to determine if they "meet the requirements" of the concept we are developing

Each of the proposed examples suggests the development of new requirements for the concept to help clarify how the concept can be applied. Applying a concept to different possible examples thus becomes the way we develop and gradually sharpen our idea of the concept. Even when a proposed example turns out *not* to be an example of the concept, our understanding of the concept is often clarified. For example, although the proposed example—a belief about the outcome of the Super Bowl—in the dialogue turns out not to be an example of the concept *philosophical belief,* examining it as a possible example helps clarify the concept and suggests other examples.

The process of developing concepts involves a constant back-and-forth movement between these two activities. As the back-and-forth movement progresses, we gradually develop a specific list of requirements that something must have to be considered an example of the concept and, at the same time, to give ourselves a clearer idea of how it is defined. We are also developing a collection of examples that embody the qualities of the concept and demonstrate situations in which the concept applies. This *interactive* process is illustrated in the following figure:



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Thinking Activity 7.3

FORMING NEW CONCEPTS THROUGH GENERALIZING AND INTERPRETING

Select a type of music with which you are familiar (for example, hip hop) and write a dialogue similar to the one on page 255. In the course of the dialogue, be sure to include

1. Examples from which you are generalizing (for example, West Coast rap, gangsta rap)
2. General properties shared by various types of this music (for example, hip hop has become an important theme in modern culture, influencing language, fashion, and creative media)
3. Examples to which you are trying to apply this developing concept (for example, the music of Jay-Z, Eminem, 50 Cent)

Forming concepts involves performing both of these operations (*generalizing* and *interpreting*) together because

- You cannot form a concept unless you know how it might apply. If you have absolutely no idea what *hip hop* or *philosophy* might be examples of, then you cannot begin to form the concept, even in vague or general terms.
- You cannot gather examples of the concept unless you know what they might be examples of. Until you begin to develop some idea of what the concept *hip hop* or *philosophy* might be (based on certain similarities among various things), you will not know where to look for examples of the concept (or how to evaluate them).

This interactive process is the way that you usually form all concepts, particularly the complicated ones. In school, much of your education is focused on carefully forming and exploring key concepts such as *democracy, dynamic equilibrium,* and *personality*. This book has also focused on certain key concepts, such as

- Thinking critically
- Solving problems
- Perceiving
- Believing
- Knowing
- Language

In each case, you have carefully explored these concepts through the interactive process of generalizing the properties/requirements of the concept and interpreting the concept by examining examples to which the concept applies.

Applying Concepts

Making sense of our experience means finding the right concept to explain what is going on. To determine whether the concept we have selected fits the situation, we have to determine whether the requirements that form the concept are being met. For example, the original television series *Superman* used to

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Thinking Critically About Visuals

Fashion Statements as Concepts

In August 1969, tens of thousands of young people converged on the tiny town of Bethel, New York, for the three-day concert that would come to be known as Woodstock. The festival combined music, politics, fashion, and alternative lifestyles in ways that continue to influence youth culture throughout the world.

If you didn't know that this photograph was taken forty years ago, would you think it was an image from a recent concert or campus event? How would you characterize the fashion choices of the people in this photograph? To what extent can political or social concepts be expressed by what we wear?

begin with the words "Look—up in the sky! It's a bird! It's a plane! No! It's Superman!"

To figure out which concept applies to the situation (so that we can figure out what is going on), we have to

1. Be aware of the properties that form the boundaries of the concept
2. Determine whether the experience meets those requirements because only if it does can we apply the concept to it

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By the mid-1970s, a grimmer countercultural youth movement was forming in New York City's underground music clubs and the streets of London. Punk, with its anarchic politics and shock-value fashion and music, had a bleak view of the potential for social change. However, just like those of the hippies of Woodstock, punk's fashion statements soon became part of the mainstream.

Playwright David Mamet has written: "The pursuit of Fashion is the attempt of the middle class to co-opt tragedy. In adopting the clothing, speech, and personal habits of those in straitened, dangerous, or pitiful circumstances, the middle class seeks to have what it feels to be the exigent and nonequivocal experiences had by those it emulates." In your own words, what is Mamet's argument about fashion? Can fashion choices that are meant to be political or social statements ever be frivolous, irresponsible, or counterproductive?

In the opening lines from *Superman,* what are some of the requirements for using the concepts being identified?

- Bird:
- Plane:
- Superman:

If we have the requirements of the concept clearly in mind, we can proceed to figure out which of these requirements are met by the experience—whether it is a bird,

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a plane, or the "man of steel" himself. This is the way we apply concepts, which is one of the most important ways we figure out what is going on in our experience.

In determining exactly what the requirements of the concept are, we can ask ourselves, "*Would something still be an example of this concept if it did not meet this requirement?*" If the answer to this question is *no*—that is, something would not be an example of this concept if it did not meet this requirement—then we can say the requirement is a necessary part of the concept.

Consider the concept *dog.* Which of the following descriptions are requirements of the concept that must be met to say that something is an example of the concept *dog?*

1. Is an animal
2. Normally has four legs and a tail
3. Bites the mail carrier

It is clear that descriptions 1 and 2 are requirements that must be met to apply the concept *dog* because if we apply our test question—"Would something still be an example of this concept if it did not meet this requirement?"—we can say that something would not be an example of the concept *dog* if it did not fit the first two descriptions: if it were not an animal and did not normally have four legs and a tail.

This does not seem to be the case, however, with description 3. If we ask ourselves the same test question, we can see that something might still be an example of the concept *dog* even if it did not bite the mail carrier. This is because even though some dogs do in fact bite, this is not a requirement for being a dog.

Of course, there may be other things that meet these requirements but are not dogs. For example, a cat is an animal (description 1) that normally has four legs and a tail (description 2). What this means is that the requirements of a concept tell us only what something *must* have to be an example of the concept. As a result, we often have to identify additional requirements that will define the concept more sharply. This point is clearly illustrated as children form concepts. Not identifying a sufficient number of the concept's requirements leads to such misconceptions as "All four-legged animals are doggies" or "All yellow-colored metal is gold."

This is why it is so important for us to have a very clear idea of the greatest possible number of specific requirements of each concept. These requirements determine when the concept can be applied and indicate those things that qualify as examples of it. When we are able to identify *all* of the requirements of the concept, we say these requirements are both *necessary* and *sufficient* for applying the concept.

Although dealing with concepts like *dog* and *cat* may seem straightforward, the situation quickly becomes more confusing when you start analyzing the more complex concepts that you encounter in your academic study. For example, consider the concepts *masculinity* and *femininity,* two of the more emotionally charged and politically contentious concepts in our culture. There are many different perspectives on what these concepts mean, what they should mean, or whether we should be using them at all. Identify what you consider to be the essential properties (specific requirements that must be met to apply the concept) for each of these

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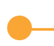
concepts, as well as examples of people or behavior that illustrate these properties. For example, you might identify "physical strength" as a property of the concept *masculinity* and identify Arnold Schwarzenegger as a person who illustrates this quality. Or you might identify "intuition" as a property of the concept *femininity* and illustrate this with the behavior of "being able to predict what someone is going to do or say before it occurs." Then compare your responses with those of the other students in the class. What are the similarities and differences in your concepts? What factors might account for these similarities and differences?

Thinking Passages

FEMININITY AND MASCULINITY

The following passages by Susan Brownmiller and Patricia Leigh Brown deal with the concepts *masculinity* and *femininity*. After reading the passages, analyze the authors' concepts of masculinity and femininity by answering the questions that follow. How do their perspectives on these concepts compare and contrast with your concepts and those of the other members of the class?



From Femininity

by Susan Brownmiller

It is fashionable in some quarters to describe the feminine and masculine principles as polar ends of the human continuum, and to sagely profess that both polarities exist in all people. Sun and moon, yin and yang, soft and hard, active and passive, et cetera, may indeed be opposites, but a linear continuum does not illuminate the problem. What, then, is the basic distinction? The masculine principle is better understood as a driving ethos of superiority designed to inspire straightforward, confident success, while the feminine principle is composed of vulnerability, the need for protection, the formalities of compliance and the avoidance of conflict—in short, an appeal of dependence and good will that gives the masculine principle its romantic validity and admiring applause. Femininity pleases men because it makes them appear more masculine by contrast; and, in truth, conferring an extra portion of unearned gender distinction on men, and unchallenged space in which to breathe freely and feel stronger, wiser, more competent, is femininity's special gift. One could say that masculinity is often an effort to please women, but masculinity is known to please by displays of mastery and competence while femininity pleases by suggesting that these concerns, except in small matters, are beyond its intent. Whimsy, unpredictability and patterns of thinking and behavior that are dominated by emotion, such as tearful expressions of sentiment and fear, are thought to be feminine precisely because they lie outside the established route to success.

Source: Excerpt from Susan Brownmiller, *Femininity*, Simon & Schuster, January 1984.

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Visual Thinking

"Pose!"

What's your reaction to the women in this photograph? Do you think that the concepts *masculinity* and *femininity* are outdated relics of earlier cultures? Or do you believe that these concepts reflect basic qualities of the human species that are still relevant today?

The Return of Manly Men

by Patricia Leigh Brown

They are the knights in shining fire helmets. They are the welders, policemen and businessmen with can-do attitudes who are unafraid to tackle armed hijackers—even if it means bringing down an airplane.

The operative word is men. Brawny, heroic, manly men.

After a few iffy decades in which manliness was not the most highly prized cultural attribute, men—stoic, muscle-bound and exuding competence from every pore—are back. Since Sept. 11, the male hero has been a predominant cultural image, presenting a beefy front of strength to a nation seeking steadiness and emotional grounding. They are the new John Waynes. They are, as the former Reagan speechwriter Peggy Noonan wrote in the *Wall Street Journal* recently, "men who charge up the stairs in a hundred pounds of gear and tell everyone else where to go to be safe."

Source: Patricia Leigh Brown, "The Return of Manly Men," *The New York Times,* October 28, 2001. Copyright © 2001 by The New York Times Co. Reprinted by permission.

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Of course, war has traditionally brought out America's inner Schwarzenegger. But since the September attacks, the firefighter coated with ash and soot has provided a striking contrast to the now prehistoric-seeming male archetype of such a short time ago: the casually dressed dot-commer in khakis and a BMW.

"Before Sept. 11, ruggedness was an affectation you put on like an outfit," said David Granger, the editor in chief of *Esquire* magazine. "Now there's a selflessness being attributed to rugged men. After a decade of prosperity that made us soft, metaphorically and physically, there's a longing for manliness. People want to regain what we had in World War II. They want to believe in big, strapping American boys."

To be sure, there is a small measure of preening in the resurrected male hero. Men who have donned the same uniform every day with little fanfare—from local politicians in Brooks Brothers suits to cops in catalog-issue blues—are aware enough of the camera and their own testosterone to fervently seize masculinity's newfound moment. From the Gang of Five (Bush, Gephardt, Daschle, Lott and Hastert) making decisions over breakfast on Capitol Hill, to the Special Ops forces blazing forth in Afghanistan, images of masculinity in full flex have played to maximum effect on television screens for weeks. So much so that, in the manner of football trading cards, the physical characteristics of the heroes aboard United Flight 93 (Todd Beamer, 6 feet, 200 pounds) have become an intrinsic part of the media retelling of that awful ordeal.

And of course, some observers like Carol Gilligan, the Graham professor of gender studies at Harvard and a visiting professor at the New York University School of Law, have noted that men's rising star has all but eclipsed that of the many heroic women who have risen to the occasion, be they firefighters or police officers.

Still, to cultural defenders of manliness who have deplored the last decade's gender-neutral sex roles, nirvana has arrived. "I can't help noticing how robustly, dreamily masculine the faces of the firefighters are," said Camille Paglia, the conservative social critic. "These are working-class men, stoical, patriotic. They're not on Prozac or questioning their gender."

In contrast to past eras of touchy-feeliness (Alan Alda) and the vaguely feminized, rakish man-child of the 1990's (Leonardo DiCaprio), the notion of physical prowess in the service of patriotic duty is firmly back on the pedestal.

"A few years ago, a lot of fashionable academics wrote about 'the end of the male project,' the idea that, due to technological advances, men no longer needed physical strength," said David Blankenhorn, president of the Institute for American Values, a New York organization that researches family issues. "Doesn't that look different now," he asked, "when 'the project' at hand is wrestling hijackers, pulling people out of buildings and hunting down terrorists in Afghanistan caves?"

As the country comes to grips with the possibility of deadly spores lurking in the mailbox and other fears, it may be that traditional images of manliness serve as emotional anchors. "We're all very afraid," said the writer Susan Faludi, whose

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most recent book, *Stiffed: The Betrayal of the American Man,* was an examination of the country's masculinity crisis. "There's a great desire to feel protected, to feel Daddy is going to take care of us. The image of firefighters and rescuers is a healing and satisfying vision of masculinity."

Cultural notions of manliness have, of course, worn very different faces over the last several weeks. The dark side has been on abundant display as information about the lives of the hijackers, as well as Osama bin Laden himself, come to light, revealing a society in which manhood is equated with violent conquest and women have been ruthlessly prevented from participating in almost every aspect of life. "The common thread in violent societies is the polarization of sex roles," said the feminist pioneer Gloria Steinem.

Part of understanding terrorism, in fact, often involves getting to the root of what is masculine. In her 1990 book, *The Demon Lover: The Roots of Terrorism,* which is being rushed back into print, the feminist author Robin Morgan examines the cyclical breeding of masculine aggression in some cultures. "The intersection of glamorized, eroticized violence with what is considered manhood forms the central knot of terrorism," she said.

But in this country, the most profound and hopeful changes to have emerged since Sept. 11 may include a new definition of manliness forged from the depths of sorrow and loss. "The good news," Ms. Morgan said, "is that the perception of the quote-unquote hero has moved from athletes and movie stars to people, largely men, who have an element of tenderness and self-sacrifice in them."

Or as the veteran television producer Norman Lear noted, the tough-tender hero that normally occupies the fictional world of television drama has been, quite suddenly, made real. "Now we're looking at real people, real heroes," he said. "That's an astonishingly good thing."

Questions for Analysis

1. According to Susan Brownmiller, what are the properties of the concept *femininity?* What are some examples of this concept?
2. Explain whether you agree with the conceptual properties Brownmiller has identified. What properties of the concept *femininity* do you think should be included that she has not addressed? Give at least one example of each property you identify.
3. According to Patricia Leigh Brown, what are the properties of the concept *masculinity?* What are some examples of this concept?
4. Explain whether you agree with the conceptual properties she has identified. What properties of the concept *masculinity* do you think should be included that Brown has not addressed? For each property you identify, give at least one example.
5. Some people feel that the concepts *masculinity* and *femininity* were formed by earlier cultures, are outdated in our current culture, and should be revised.

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Other people believe that these concepts reflect basic qualities of the human species, just like the sexual differences in other species, and should not be excessively tampered with. Explain where you stand on this issue, and describe the reasons that support your position.

Using Concepts to Classify

When you apply a concept to an object, idea, or experience, you are *classifying* the object, idea, or experience by placing it into the group of things defined by the properties/requirements of the concept. The individual objects, ideas, or experiences belong to no particular class until you classify them. In fact, the same things can often be classified in many different ways. For example, if someone handed you a tomato and asked, "Which class does this tomato belong in: fruit or vegetable?" how would you respond? The fact is a tomato can be classified as *both* a fruit and a vegetable, depending on your purposes.

Let us consider another example. Imagine that you are walking on undeveloped land with some other people when you come across an area of soggy ground with long grass and rotting trees. One person in your group surveys the parcel and announces: "That's a smelly marsh. All it does is breed mosquitoes. It ought to be covered with landfill and built on so that we can use it productively." Another member of your group disagrees with the classification "smelly marsh," stating: "This is a wetland of great ecological value. There are many plants and animals that need this area and other areas like it to survive. Wetland areas also help prevent the rivers from flooding by absorbing excess water during heavy rains." Which person is right? Should the wet area be classified as a "smelly marsh" or a "valuable wetland"? Actually, the wet area can be classified both ways. The classification that you select depends on your needs and your interests. Someone active in construction and land development may tend to view the parcel through perceptual lenses that reflect her interests and experience and classify it accordingly. Someone involved in preserving natural resources will tend to view the same parcel through different lenses and place it in a different category. The diagram on page 266 illustrates how a tree might be "seen" from a variety of perspectives, depending on the interest and experience of those involved.

These examples illustrate that the way you classify reflects and influences the way you see the world, the way you think about the world, and the way you behave in the world. This is true for almost all the classifications you make. Consider the racehorse Secretariat, who won the Triple Crown in 1973 and was one of the most famous racehorses that ever lived. Which classification should Secretariat be placed into?

- A magnificent thoroughbred
- A substantial investment
- An animal ill equipped for farming
- A descendant of Bold Ruler
- A candidate for the glue factory

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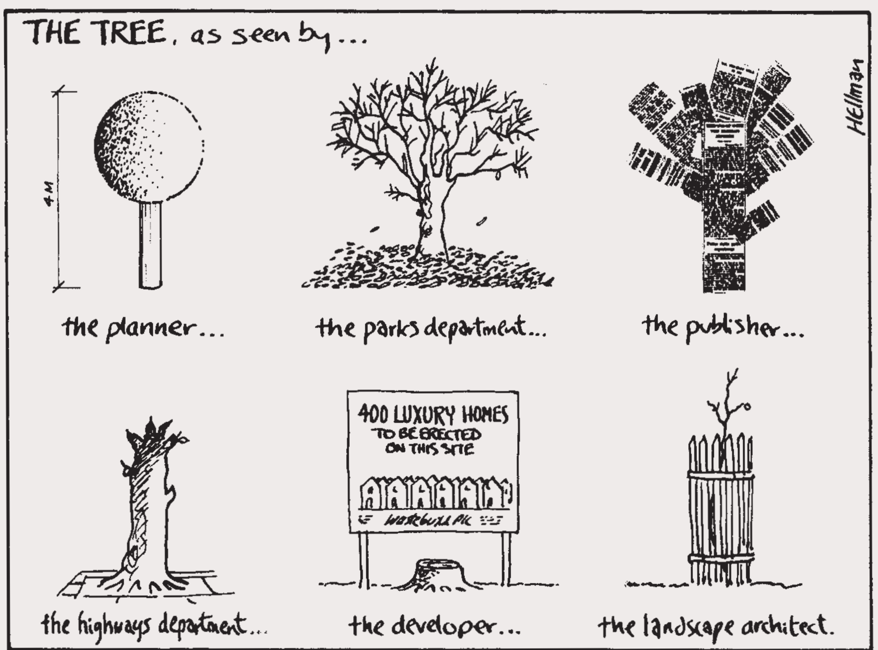
Visual Thinking

"A Tree Is Just a Tree, Is Just a Tree. . . ."
Create a caption for this illustration. Then draw a symbolic picture of your favorite tree.



You classify many of the things in your experience differently than others do because of your individual needs, interests, and values. For instance, smoking marijuana might be classified by some as "use of a dangerous drug" and by others as a "harmless good time." Some view large cars as "gas guzzlers"; others see the same cars as "safer, more comfortable vehicles." Some people categorize the latest music as "meaningless noise" while others think of it as "creative expression." The way you classify aspects of your experience reflects the kind of individual you are and the way you think and feel about the world.

You also place people into various classifications. The specific classifications you select depend on who you are and how you see the world. Similarly, each of us is placed into a variety of classifications by different people. For example, here are some of the classifications into which certain people placed me:

Classification:	*People who classify me:*
First-born son	My parents
Taxpayer	Internal Revenue Service

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Classification:	*People who classify me:*
Tickler	My son/daughter
Bagel with cream cheese	Server where I pick up my breakfast

List some of the different ways that you can be classified, and identify the people who would classify you that way.

Finally, besides classifying the same thing or event in a variety of different ways, you can classify most collections of things in various ways. For example, consider the different ways the members of your class can be classified. You could group them according to their majors, their ages, their food preferences, and so on. The specific categories you would use would depend on the purposes of your classification. If you were trying to organize career counseling, then classifying according to majors makes sense. If you were trying to plan the menu for a class party, then food preferences would be the natural category for classification.

Not only do you continually classify things and people into various groups based on the common properties you choose to focus on, you also classify ideas, feelings, actions, and experiences. Explain, for instance, why the killing of another person might be classified in different ways, depending on the circumstances.

Classification:	*Circumstance:*	*Example:*
1. Manslaughter	Killing someone accidentally	Driving while intoxicated
2. Self-defense		
3. Premeditation		
4. Mercy killing		
5. Diminished capacity		

Each of these classifications represents a separate legal concept, with its own properties and referents (examples). Of course, even when you understand clearly what the concept means, the complexity of the circumstances often makes it difficult to determine which concept applies. For example, in Chapter 2, "Thinking Critically," you considered a court case that raised complex and disturbing issues. In circumstances like these, trying to identify the appropriate concepts and then to determine which of the further concepts, "guilty" or "innocent," also applies, is a challenging process. This is true of many of life's complex situations: You must work hard at identifying the appropriate concepts to apply to the situations you are trying to make sense of and then be prepared to change or modify these concepts based on new information or better insight.

Defining Concepts

When you define a concept, you usually identify the necessary properties/requirements that determine when the concept can be applied. In fact, the word *definition* is derived from the Latin word meaning "boundary" because that is exactly

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what a definition does: It gives the boundaries of the territory in your experience that can be described by the concept. For example, a definition of the concept *horse* might include the following requirements:

- Large, strong animal
- Four legs with solid hoofs
- Flowing mane and tail
- Domesticated long ago for drawing or carrying loads, carrying riders, and so on

By understanding the requirements of the concept *horse,* you understand what conditions must be met in order for something to qualify as an example of the concept. This lets you know in what situations you can apply the concept: to the animals running around the racetrack, the animals pulling wagons and carriages, the animals being ridden on the range, and so on. In addition, understanding the requirements lets you know to which things the concept can be applied. No matter how much a zebra looks like a horse, you won't apply the concept *horse* to it if you really understand the definition of the concept involved.

Definitions also often make strategic use of examples of the concept being defined. Consider the following definition by Ambrose Bierce:

> *An edible:* Good to eat and wholesome to digest, as a worm to a toad, a toad to a snake, a snake to a pig, a pig to a man, and a man to a worm.

Contrast this definition with the one illustrated in the following passage from Charles Dickens's *Hard Times:*

> "Bitzer," said Thomas Gradgrind. "Your definition of a horse."
>
> "Quadruped. Graminivorous. Forty teeth, namely twenty-four grinders, four eye teeth, and twelve incisive. Sheds coat in the spring; in marshy countries sheds hoofs, too. Hoofs hard, but requiring to be shod with iron. Age known by marks in mouth." Thus (and much more) Bitzer.
>
> "Now girl number twenty," said Mr. Gradgrind, "you know what a horse is."

Although Bitzer has certainly done an admirable job of listing some of the necessary properties/requirements of the concept *horse,* it is unlikely that "girl number twenty" has any better idea of what a horse is than she had before because the definition relies exclusively on a technical listing of the properties characterizing the concept *horse* without giving any examples that might illustrate the concept more completely. Definitions that rely exclusively on a technical description of the concept's properties are often not very helpful unless you already know what the concept means. A more concrete way of communicating the concept *horse* would be to point out various animals that qualify as horses and other animals that do not. You could also explain why they do not (for example, "That can't be a horse because it has two humps and its legs are too long and skinny").

Although examples do not take the place of a clearly understood definition, they are often useful in clarifying, supplementing, and expanding such a definition. If someone asked you, "What is a horse?" and you replied by giving examples of different kinds of horses (thoroughbred racing horses, plow horses for farming, quarter

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horses for cowboys, hunter horses for fox hunting, circus horses), you certainly would be communicating a good portion of the meaning of *horse.* Giving examples of a concept complements and clarifies the necessary requirements for the correct use of that concept. For example, provide a dictionary definition for each of the following concepts, and describe ways you could supplement and expand each definition:

EXAMPLE: Smile

a. Definition: a facial expression characterized by an upward curving of the corners of the mouth and indicating pleasure, amusement, or derision.
b. Ways to expand the definition: smiling at someone or drawing a picture of a smiling face.

- ambivalent
- intelligent
- art
- thinking
- work
- create

The process of providing definitions of concepts is thus the same process you use to develop concepts. Of course, this process is often difficult and complex, and people don't always agree on how concepts should be defined. For example, consider the concepts *masculinity* and *femininity* that you explored earlier through the passages by Susan Brownmiller and Patricia Leigh Brown. Notice how, although areas of overlap exist between both authors' definitions, there are also significant differences in the defining properties and examples that they identify.

Defining a Concept

Giving an effective definition of a concept means both

- Identifying the general qualities of the concept, which determine when it can be correctly applied
- Using appropriate examples to demonstrate actual applications of the concept—that is, examples that embody the general qualities of the concept

Thinking Activity 7.4

ANALYZING THE CONCEPT *RESPONSIBILITY*

Review the ideas we have explored in this chapter by analyzing the concept *responsibility*. "Responsibility" is a complex idea that has an entire network of meaning. The word comes from the Latin word *respondere,* which means "to pledge or promise."

Generalizing

1. Describe two important responsibilities you have in your life, and identify the qualities they embody that lead you to think of them as "responsibilities."
2. Describe a person in your life whom you think is responsible, and then describe a person in your life whom you think is irresponsible. In reflecting on these

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individuals, identify the qualities they embody that lead you to think of them as "responsible" or "irresponsible."

Interpreting

3. Consider the following situations. In each case, describe what you consider to be examples of responsible behavior and irresponsible behavior. Be sure to explain the reasons for your answers.
   a. You are a member of a group of three students who are assigned the task of writing a report on a certain topic. Your life is very hectic and, in addition, you find the topic dull. What is your response? Why?
   b. You are employed at a job in which you observe your supervisor and other employees engaged in activities that break the company rules. You are afraid that if you "blow the whistle," you might lose your job. What is your response? Why?

Defining

4. Using these activities of generalizing and interpreting as a foundation, define the concepts *responsible* and *irresponsible* by listing the qualities that make up the boundaries of each concept and identifying the key examples that embody and illustrate the qualities of the concept.

Thinking Activity 7.5

THE CONCEPTS *INFORMATION* AND *OWNERSHIP*

The Internet allows information to be easily and cheaply manipulated, duplicated, and shared. In this new environment, what happens to the concept of "ownership" of information, music, text, or other online material? What are the ethics of using such material for personal enjoyment or enrichment?

ONLINE RESOURCES
Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** for additional readings about music file-sharing, online plagiarism, and related issues.

Thinking Passage

IDENTIFY YOURSELF: WHO'S AMERICAN?

To be "an American" is a complex, diverse concept that has had a variety of meanings at different points in America's history. Unlike most countries, where the majority populations tend to be more homogeneous and national identity is generally built

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around shared ancestry or common ethnic heritage, America is a country that has been built on diversity of every sort. Who's American? The following article by Gregory Rodriguez explores this complex concept in order to provide us with a coherent, intelligible answer.

Identify Yourself: Who's American?

by Gregory Rodriguez

American national identity is not based on shared ancestry or common ethnic heritage. Though it has become a dirty word in the past few decades, assimilation—in which people of different backgrounds come to consider themselves part of a larger national family—has long been the basis of citizenship. Because America is a nation of immigrants, its history was a constant struggle by outsiders seeking to become insiders. Yet America's very diversity always made it particularly uncomfortable with the idea of the "other."

Now, the terrorist attacks in New York and Washington are making Americans more wary of outsiders than they have been in decades—and are having profound implications for the debate over what it means to be American.

Assimilation was long viewed as a process of subtraction—newcomers displayed their loyalty by discarding the language and customs of their native lands. Immigrants were criticized for congregating and finding mutual support.

Not until the 1960's was it permissible for immigrants to adhere to their cultural heritages. This new understanding tested and broadened the nation's collective notions of what it meant to be an American. The definition of citizenship shifted from the belief in a common culture to following shared ideals. Since the 1970's, multiculturalism helped nurture an unprecedented level of public tolerance of ethnic and racial differences and new respect for hyphenated identities.

In some quarters, a rigid form of multiculturalism also arose that challenged the need for immigrants and other minorities to identify with America at all. By the end of the 20th century, some scholars speculated that being American simply meant participation in the search for wealth and stability.

Now, however, after the attacks, not only is the drive for unity bound to tilt the nation's ethnic balance back in favor of the American side of the hyphen, it could permanently undermine the more extreme forms of multiculturalism. In the worst-case scenario, it could also dampen the nation's recent appreciation of diversity.

"Historically, war and the crises associated with it have been instrumental in terms of nation-building," said Gary Gerstle, a historian at the University of Maryland. Before the Civil War, for example, Americans spoke of the United States in the plural ("the United States are"), because each state was considered a

Source: Gregory Rodriguez, "Aftermath: Melting Pot; Identify Yourself: Who's American?" *The New York Times,* September 23, 2001. Copyright © 2001 by The New York Times Co. Reprinted by permission.

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Visual Thinking

Who Is an American?

How would you define an American? Does examining this photo help you define the concept *American?* Why or why not? Is America different from other countries in the way it defines its citizens?

discrete unit. Only after the crucible of the war did the public begin to refer to the nation in the singular ("the United States is").

The United States is currently experiencing a greater sense of national unity across racial and ethnic lines than it has since the early 1960's. External threats to any country tend to crystallize the collective identity and encourage citizens to distinguish themselves from the enemy. Yet while wars and other national crises have served as catalysts to unite a diverse population, they have also incited some of the worst incidents of repression against minorities the public associated with the enemy.

Since the Sept. 11 attacks, there has been a notable number of hate crimes against Arab-Americans and Muslims. Frightened by a wave of violence, American Sikhs are explaining to the public that despite their turbans and beards, they are not Muslims. President Bush visited a Washington mosque on Monday, in an attempt to discourage retaliation against Arab-Americans. He showed that, at the very least, wartime repression this time around would not be government-sanctioned. But Muslim leaders are already discussing plans for Muslim women to

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change the way they dress, perhaps exchanging head scarves for hats and turtlenecks. On Monday, a woman trekked to the New York Health Department headquarters trying to change her son's surname from "Mohammed" to "Smith."

The catastrophe in New York and Washington and the talk of war is already hastening the assimilation—in both negative and positive ways—of immigrants into American society. Many of the newest Americans, some of whom may have considered themselves marginalized just weeks ago, are going to great lengths to show solidarity with their adopted nation.

Pakistani taxi drivers in New York are displaying the Stars and Stripes in their cabs. Last Saturday in Los Angeles, two Spanish-language radio stations hosted thousands of Spanish-speaking immigrants at one of the city's largest solidarity rallies. The widespread sense of a common fate is giving many immigrants a sense of belonging to a national community.

But the hardening of the national identity also induces subtle shifts in the country's racial and ethnic hierarchy. On Tuesday, at an alternative school in Washington, eight black teenagers who were not strangers to the criminal justice system expressed their anger and fear of Arab-Americans, and for the first time spoke for the other side of the racial profiling debate. In Southern California, a dark-complected Moroccan immigrant comforts himself with the fact that many people assume he is Mexican, a group that felt itself under attack only a few years ago.

"Pearl Harbor made Chinese into Americans for the first time since the 1880's," said Philip Kasinitz, a sociologist at the Graduate Center of the City University of New York. "But it excluded the Japanese-Americans regardless of how long they had been in America." In some crude way, the reforging of American identity under fire produces winners and losers.

Perhaps in their desire to establish their credentials as insiders and to distinguish themselves from the enemy, minority Americans are sometimes the most zealous in excluding whoever has been deemed the new outsiders. The Arizona man arrested last week for allegedly murdering a Sikh gas station operator has a Spanish surname. He asserted to police as he was arrested, "I'm a damn American all the way." During World War I, Poles and other Eastern Europeans were particularly active in their repression of German-Americans. In World War II, there were incidents of Filipinos attacking Japanese-Americans.

The most egregious example of an American minority being targeted because of its association with the foreign enemy was the internment of 110,000 Japanese-Americans (two-thirds of whom were U.S. citizens) during World War II.

Earlier, the outbreak of World War I intensified Americans' already strong suspicions of foreigners, which, in turn, gave rise to a campaign to rid the country of foreign influences.

Because they shared the same ethnicity as the enemy and because many Teutonic organizations lobbied heavily to keep America neutral in the early years

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of the war, German-Americans suffered one of the most dramatic reversals of fortunes of any group in American history. The German language, its culture, customs, and even food came under attack. In 1918, nearly half the states had restricted or eliminated German-language instruction; several stripped citizens of the freedom of speaking German in public.

But while national solidarity during World War I was characterized by coercion, World War II engendered what one scholar has called "patriotic assimilation." "By the end of the war," writes Eric Foner, a historian at Columbia University, "the new immigrant groups had been fully accepted as ethnic Americans, rather than members of distinct and inferior races."

On the level of everyday life, the war was a great common experience, particularly for the 12 million men and women who served in the armed forces, but also for much of the rest of the population, which shared the losses, privations and ultimately, the joys of victory. Wartime "fox hole" movies didn't seek to deny ethnic distinctions but affirmed the Americanness of the Irish, Jewish, Polish, and Okie soldiers who were "all in it together."

African-Americans, of course, have fought in every war in American history, and were still not recognized as full Americans when they returned. But it was at the end of World War II that blacks first saw the beginnings of integration, a process that accelerated in the postwar years. Still, just as the Japanese-American units in World War II became the most decorated in American military history, many black soldiers have sought to express and prove their "Americanness" through valor. "It is a refusal to be left out of the definition of whatever it is that comprises American identity," said Debra Dickerson, a writer and 12-year Air Force veteran.

But wartime can also reinvigorate the public's appreciation for the country's most cherished values. "It compels an articulation of American ideals, those things that America stands for," said Professor Gerstle. Just as the need for tightened security will at times conflict with the nation's belief in broad civil liberties, the quest for unity is bound to clash with another American ideal: tolerance.

Questions for Analysis

1. Before reading this article, what was your answer to the question "Who's American?" How did you develop this concept of being an American? If you or your parents were born in another country, how would you define the national identity of that country? (For example, what does it mean to be Dominican or Chinese?)
2. How did the events of September 11, 2001, affect the debate over what it means to be American?
3. How would you relate the concept multiculturalism to that of being an American? Do you think these concepts are in potential conflict with each other? Why or why not?
4. How have wars traditionally influenced the general perception of being an American?

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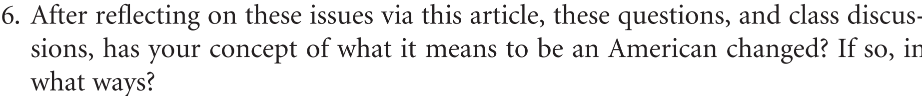
5. How can the concept of a national identity both unite and divide people?


6. After reflecting on these issues via this article, these questions, and class discussions, has your concept of what it means to be an American changed? If so, in what ways?

Relating Concepts with Mind Maps

A *mind map* is a visual presentation of the ways in which concepts can be related to one another. For example, each chapter in this book opens with a diagram—what we will call a "mind map" or "cognitive map"—that visually summarizes the chapter's basic concepts as well as the way in which these concepts are related to one another. These maps are a reference guide that reveals basic themes and chapter organization. Because they clearly articulate various patterns of thought, mind maps are effective tools for helping us understand complex bodies of information.

ONLINE RESOURCES
Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** for examples of mind-mapping strategies to help you with your study skills and decision making.

Mind mapping is a flexible and effective tool that can be used in nearly every part of the learning and thinking process. A mapping approach offers some clear advantages in organizing the information you receive from oral communication. For instance, when you as a student take notes of what a teacher is saying, it's difficult to write down whole sentences and quotations from the lecture or class discussion. Taking notes by mapping enables you to identify the key ideas and articulate the various relationships among them. Similarly, mapping is also an effective aid in preparing for oral presentations because by organizing the information you want to present in this way, you have all the key ideas and their relationships in a single whole.

Along with reading, listening, and speaking, mapping is also useful for writing. First, the organization grows naturally, reflecting the way your mind naturally makes associations and organizes information. Second, the organization can be easily revised on the basis of new information and your developing understanding of how this information should be organized. Third, you can express a range of relationships among the various ideas, and each idea can remain an active part of the overall pattern, suggesting new possible relationships. Fourth, you do not have to decide initially on a beginning, subpoints, sub-subpoints, and so on; you can do this after your pattern is complete, saving time and avoiding frustration.

ONLINE RESOURCES
Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** for an extensive section on mind mapping, including examples, activities, and links to related websites.

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Thinking Activity 7.6

CREATING AND APPLYING MIND MAPS

Suppose someone handed you a pencil and a piece of paper with the request "Please draw me a detailed map that shows how to get to where you live from where we are now." Draw such a map on a separate sheet of paper.

Maps, like the one you just drew, are really groups of symbols organized in certain relationships. In creating your visual map, you tried both to represent and to organize various aspects of your experience into a pattern that made sense to you and to others. As you constructed your map, you probably traveled the route home "in your mind," trying to recall the correct turns, street names, buildings, and so on. You then symbolized these experiences and organized the symbols into a meaningful pattern—your map.

You can see that the activity of making maps draws on two skills needed for making sense of your world:

- Representing your experience with symbols
- Organizing and relating these symbols into various patterns to gain an increased understanding of your experience

Creating maps is thus a way to represent and organize experience so that you can make sense of it, and it is a strategy you can apply to many different areas of your world. For example, you can create maps of your mind—"mind maps" that express the patterns of your thinking processes.

Final Thoughts

In the same way that words are the vocabulary of language, concepts are the vocabulary of thought. Concepts are general ideas that we use to bring order and intelligibility to our experience. As organizers of our experience, concepts work in conjunction with language to identify, describe, distinguish, and relate all the various aspects of our world. They give us the means to understand our world and make informed decisions, to think critically and act intelligently.

To become a sophisticated thinker, you must develop expertise in the conceptualizing process, improving your ability to

- *Form* concepts through the interactive process of generalizing and interpreting
- *Apply* concepts by matching their necessary requirements to potential examples
- *Relate* concepts to each other in various patterns

This complex conceptualizing process is going on all the time in our minds, enabling us to think in a distinctly human way.

By understanding the conceptualizing process, you can more fully appreciate the integral relationship between language and thought that you have been exploring in these last two chapters, the way in which these two processes work as one to

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create meaning and understanding. In the same way that words are combined according to the rules of language to produce an infinite variety of linguistic expression, so concepts are related according to the patterns of thought to create the infinite dimensions of thinking.

The remaining chapters of this text will focus on the rules and patterns of thought that determine the way concepts are combined and organized in complex relationships to produce the highest, most sophisticated levels of human thinking.

Thinking Passage

WHAT IS RELIGION?

There are few concepts more complex and charged than the concept *religion.* The passage "What Is Religion?" by Frederick J. Streng, on the **student website** at **college.hmco.com/pic/chaffeetc9e**, is taken from the book *Ways of Being Religious.* It presents a provocative introduction to the concepts *religion* and *religious experience.*

ONLINE RESOURCES

Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** to read "What Is Religion?" by Frederick J. Streng. After reading the selection online, answer the following questions.

1. Describe your concept of religion as specifically as possible. Where did the concept originate for you? How did it evolve as you have matured? Explain the reasons or experiences that support your concept.
2. Evaluate your concept of religion by answering the four questions posed within the Thinking Passage:
   - "Does your definition *reduce* religion to what you happen to be acquainted with by accident of birth and socialization?"
   - "Does your definition reflect a *bias* on your part—positive or negative—toward religion as a whole, or toward a particular religion?"
   - "Does your definition *limit* religion to what it has been in the past, and nothing else, or does your definition make it possible to speak of emerging forms of religion?"
   - "Does your definition have sufficient *precision?*"
3. Compare your definition of *religion* to the definitions of other students in your class. What are the similarities? What are the differences? How do you explain these similarities or differences?
4. In the Thinking Passage, *religion* is defined as a "means toward ultimate transformation." What do you think this definition means? Explain how the definition from the passage relates to your definition.

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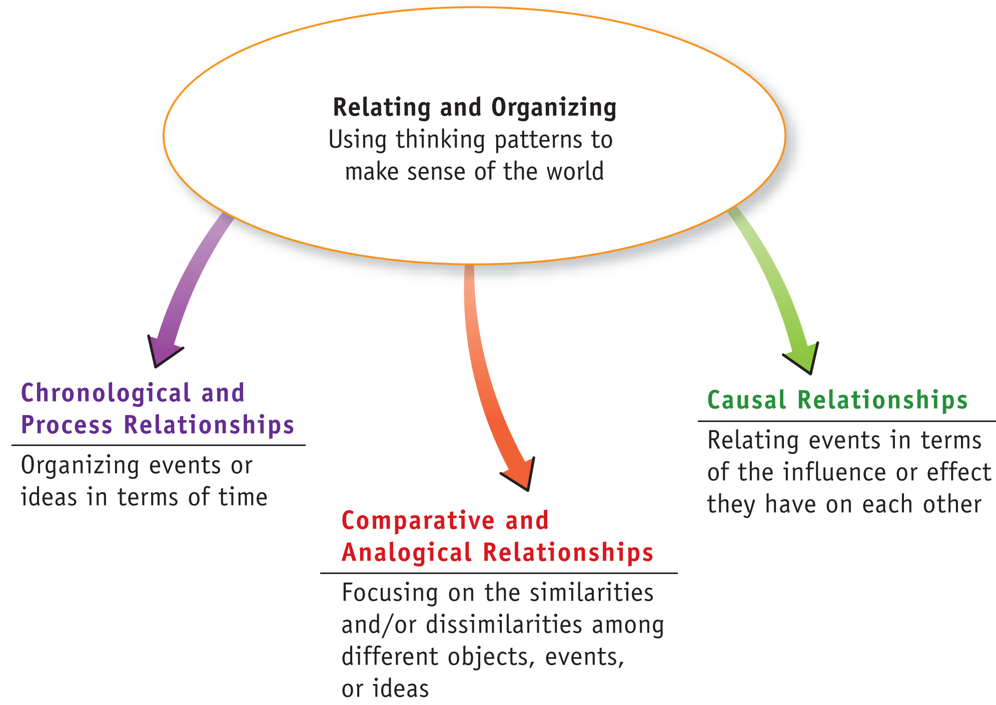
8 Relating and Organizing



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Throughout this book we have been considering and experiencing the insight that each one of us is a "creator." Our world does not exist as a finished product, waiting for us to perceive it, think about it, and describe it with words and pictures. Instead, we are *active participants* in composing the world that seems so familiar to us.

The goal of this composing process is to organize your world into meaningful patterns that will help you figure out what is going on and what you ought to do. Composing your world involves all the activities that we have been exploring, including

perceiving	symbolizing	interpreting
believing	describing	conceptualizing
knowing	classifying	defining
solving problems	generalizing	analyzing

Your ability to think critically gives you the means to examine the different ways by which you are making sense of the world so that you can develop and sharpen your understanding. As you actively discover and compose various patterns, you are exploring the ways in which different aspects of your experience *relate* to each other.

Ideas, things, and events in the world can be related and organized in a variety of ways. For example, different individuals might take the same furniture and decorations in the same space and arrange them in many different ways, reflecting each person's needs, ways of thinking, and aesthetic preferences. To take another example, a class of students may write essays about the same subject and yet create widely differing results.

All these ways of relating and organizing reflect basic thinking patterns that you rely on constantly when you think, act, or use language. These basic thinking patterns are an essential part of your process of composing and making sense of the world. We will explore three basic ways of relating and organizing in this chapter.

Chronological and process relationships:

- Chronological—relating events in time sequence
- Process—relating aspects of the growth or development of an event or object

Comparative and analogical relationships:

- Comparative—relating things in the same general category in terms of similarities and dissimilarities
- Analogical—relating things belonging to different categories in terms of each other

Causal relationships:

- Causal—relating events in terms of the way some event(s) is/are responsible for bringing about other event(s)

These basic thinking patterns (and others besides) play an active role in the way you perceive, shape, and organize your world to make it understandable to you. The specific patterns you use to organize your ideas in thinking, writing, and speaking

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depend on the subject you are exploring, the goals you are aiming for, the type of writing or speaking you are doing, and the audience who will be reading or listening to your work. In most cases, you will use a variety of basic patterns in thinking, writing, and speaking to organize and relate the ideas you are considering.

Chronological and Process Relationships

Chronological and process patterns of thinking organize events or ideas in terms of their occurrence in time, though the two patterns tend to differ in focus or emphasis. The *chronological* pattern of thinking organizes something into a series of events in the sequence in which they occurred. The *process* mode of thinking organizes an activity into a series of steps necessary for reaching a certain goal.

Chronological Relationships

The simplest examples of chronological descriptions are logs or diaries, in which people record things that occurred at given points in time. The oldest and most universal form of chronological expression is the *narrative*, a way of thinking and communicating in which someone tells a story about experiences he or she has had. (Of course, the person telling the story can be a *fictional* character created by a writer who is using a narrative form.) Every human culture has used narratives to pass on values and traditions from one generation to the next, exemplified by such enduring works as the *Odyssey* and the Bible. The word *narrative* is derived from the Latin word for "to know." Narrators are people who "know" what happened because they were there to experience it firsthand (or spoke to people who were there) and who now share this experience with you.

One of America's great storytellers, Mark Twain, once said that a good story has to accomplish something and arrive somewhere. In other words, if a story is to be effective in engaging the interest of the audience, it has to have a purpose. The purpose may be to provide more information on a subject, to illustrate an idea, to lead us to a particular way of thinking, or merely to entertain us. An effective story does not merely record the complex, random, and often unrelated events of life. Instead, it has focus and purpose, possesses an ordered structure (a *plot*), and expresses a meaningful point of view.

Thinking Activity 8.1

CREATING A NARRATIVE DESCRIPTION

Using a mind map that you create as a guide, like the diagram on page 281, write a narrative describing an event or experience that had special significance in your life. After completing your narrative, explain what you think is the most important point that you are trying to share with your audience. Read your narrative to the other members of the class, and then discuss it with them, comparing the meaning you intended with the meaning they derived.

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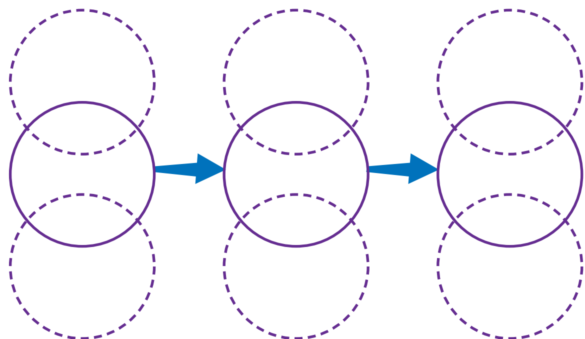
Chronological Relationships



Process Relationships

Another type of time-ordered thinking is the process relationship, which focuses on relating aspects of the growth and development of an event or experience. From birth onward, you are involved with processes in every facet of your life. These processes can be classified in various ways: natural (e.g., growing in height), mechanical (e.g., assembling a bicycle), physical (e.g., learning a sport), mental (e.g., developing your thinking), creative (e.g., writing a poem), and so on.

Performing a *process analysis* involves two basic steps. The first step is to divide the process or activity you are analyzing into parts or stages. The second step is to explain the movement of the process through these parts or stages from beginning to end. The stages you have identified should be separate and distinct and should involve no repetition or significant omissions.

In performing a process analysis, you are typically trying to achieve one or both of two goals. The first goal is to give people step-by-step instruction in how to perform an activity, such as taking a photograph, changing a tire, or writing an essay. The second goal is simply to give information about a process, not to teach someone how to perform it. For example, your biology teacher might explain the process of photosynthesis to help you understand how green plants function, not to teach you how to go about transforming sunlight into chlorophyll!

Thinking Activity 8.2

ANALYZING PROCESS RELATIONSHIPS

Review the following passages, which are examples of the process-analysis pattern of thinking. For each passage do the following:

1. Identify the purpose of the passage.
2. Describe the main stages in the process identified by the author.
3. List questions you still have about how the process operates.

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Jacketing was a sleight-of-hand I watched with wonder each time, and I have discovered that my father was admired among sheepmen up and down the valley for his skill at it: *He was just pretty catty at that, the way he could get that ewe to take on a new lamb every time.* Put simply, jacketing was a ruse played on a ewe whose lamb had died. A substitute lamb quickly would be singled out, most likely from a set of twins. Sizing up the tottering newcomer, Dad would skin the dead lamb, and into the tiny pelt carefully snip four leg holes and a head hole. Then the stand-in lamb would have the skin fitted onto it like a snug jacket on a poodle. The next step of disguise was to cut out the dead lamb's liver and smear it several times across the jacket of pelt. In its borrowed and bedaubed skin, the new baby lamb then was presented to the ewe. She would sniff the baby impostor endlessly, distrustful but pulled by the blood-smell of her own. When in a few days she made up her dim sheep's mind to accept the lamb, Dad snipped away the jacket and recited his victory: *Mother him like hell now, don't ye? See what a hellava dandy lamb I got for ye, old sister? Who says I couldn't jacket day onto night if I wanted to, now-I-ask-ye?*

—Ivan Doig, *This House of Sky*

If you are inexperienced in relaxation techniques, begin by sitting in a comfortable chair with your feet on the floor and your hands resting easily in your lap. Close your eyes and breathe evenly, deeply, and gently. As you exhale each breath let your body become more relaxed. Starting with one hand direct your attention to one part of your body at a time. Close your fist and tighten the muscles of your forearm. Feel the sensation of tension in your muscles. Relax your hand and let your forearm and hand become completely limp. Direct all your attention to the sensation of relaxation as you continue to let all tension leave your hand and arm. Continue this practice once or several times each day, relaxing your other hand and arm, your legs, back, abdomen, chest, neck, face, and scalp. When you have this mastered and can relax completely, turn your thoughts to scenes of natural tranquility from your past. Stay with your inner self as long as you wish, whether thinking of nothing or visualizing only the loveliest of images. Often you will become completely unaware of your surroundings. When you open your eyes you will find yourself refreshed in mind and body.

—Laurence J. Peter, *The Peter Prescription*

The stages of mourning are universal and are experienced by people from all walks of life. Mourning occurs in response to an individual's own terminal illness or to the death of a valued being, human or animal. There are five stages of normal grief.

In our bereavement, we spend different lengths of time working through each step and express each stage more or less intensely. The five stages do not necessarily occur in order. We often move between stages before achieving a more peaceful acceptance of death. Many of us are not afforded the luxury of time required to achieve this final stage of grief. The death of a loved one might inspire you to evaluate your own feelings or mortality. Throughout each stage, a common thread of hope emerges. As long as there is life, there is hope. As long as there is hope, there is life.

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1. *Denial and isolation:* The first reaction to learning of terminal illness or death of a cherished pet is to deny the reality of the situation. It is a normal reaction to rationalize overwhelming emotions. It is a defense mechanism that buffers the immediate shock. We block out the words and hide from the facts. This is a temporary response that carries us through the first wave of pain.
2. *Anger:* As the masking effects of denial and isolation begin to wear, reality and its pain re-emerge. We are not ready. The intense emotion is deflected from our vulnerable core, redirected and expressed instead as anger. The anger may be aimed at inanimate objects, complete strangers, friends or family. Anger may be directed at our dying or deceased loved one. Rationally, we know the person is not to be blamed. Emotionally, however, we may resent it for causing us pain or for leaving us. We feel guilty for being angry, and this makes us more angry. The doctor who diagnosed the illness and was unable to cure the disease might become a convenient target.
3. *Bargaining:* The normal reaction to feelings of helplessness and vulnerability is often a need to regain control. If only we had sought medical attention sooner or secured a second opinion from another doctor. Secretly, we may make a deal with God or our higher power in an attempt to postpone the inevitable. This is a weaker line of defense to protect us from the painful reality.
4. *Depression:* Two types of depression are associated with mourning. The first one is a reaction to practical implications relating to the loss. Sadness and regret predominate. We worry that, in our grief, we have spent less time with others that depend on us. This phase may be eased by simple clarification and reassurance. We may need a bit of helpful cooperation and a few kind words. The second type of depression is more subtle and, in a sense, perhaps more private. It is our quiet preparation to separate and to bid our loved one farewell.
5. *Acceptance:* Reaching this stage of mourning is a gift not afforded to everyone. Death may be sudden and unexpected or we may never see beyond our anger or denial. It is not necessarily a mark of bravery to resist the inevitable and to deny ourselves the opportunity to make our peace. This phase is marked by withdrawal and calm. This is not a period of happiness and must be distinguished from depression.

Thinking Activity 8.3

CREATING A PROCESS DESCRIPTION

We tend to be most acutely aware of process analysis when we are learning a new activity for the first time, such as preparing formula for an infant or installing a new oil filter in a car. Identify such an occasion in your own life and then complete the following activities:

1. Create a mind map of the process, similar in form to the diagram on page 284.
2. Describe the steps or stages in the process.

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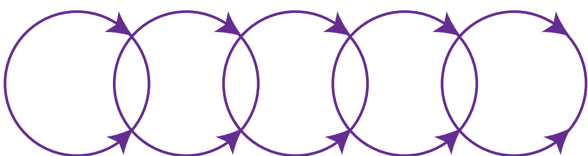
3. Write a passage explaining how the stages fit together in an overall sequence.
4. Describe any special problems you had to solve, the manner in which you went about solving them, and the feelings you experienced in learning this process.

Process Relationships



Comparative and Analogical Relationships

Comparative and analogical patterns of thinking focus on the similarities and/or dissimilarities among different objects, events, or ideas. Comparative modes of thinking relate things in the *same* general category in terms of their similarities and differences. For example, when you shop for something important, like a car, you generally engage in a process of organized comparing (evaluating similarities and differences) as you examine the various makes and models. However, analogical modes of thinking relate things in entirely different categories in terms of their similarities. For example, on your shopping expedition for a car, you might say of a used car badly in need of repair, "That car is a real lemon." Obviously cars and lemons are in different categories, but the analogy brings out some similarities between the two (a sense of "sourness" or "bitterness").

Comparative Relationships

Think of an item you shopped for and bought in the past month. It might have been an article of clothing, a good book, a new CD, or a DVD player. Identify the item you selected, noting as much specific information about it as you can remember—brand, color, size, cost, and so on. When you went shopping, you probably spent a fair amount of time examining other items of the same type, things that you looked at but did not buy. As you made your decision to purchase the item you did, you probably compared the various brands before making your selection. Identify some of the factors you took into consideration in comparing the different items. For example, if you were shopping for jeans:

Item purchased:	*Comparative factors:*	*Item not purchased:*
Levi's jeans	Brand	Seven for All Mankind jeans
$39.00	Price	$150.00
Straight cut	Style	Designer cut
Unwashed denim	Material	Prewashed denim

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You compare in this way all the time, usually without even realizing it. Whenever you select an item on a menu or in a store, or a seat in a theater or on a bus, you are automatically looking for similarities and differences among the various items from which you are selecting, and these similarities and differences guide you in making your decision.

Of course, you do not always engage in a systematic process of comparison. In many cases, the selections and decisions you make seem to be unconscious. This may be so because you have already performed an organized comparison at some time in the past and already know what you want and why you want it (e.g., "I always choose an aisle seat so that I don't have to climb over people").

Sometimes, however, you make decisions impulsively, without any thought or comparative examination. Maybe someone told you to, maybe you were influenced by a commercial you saw, or maybe you simply said, "What the heck, let's take a chance." Sometimes these impulsive decisions work out for you, but often they do not because they are simply a result of rolling the dice. In contrast, when you engage in a critical and comparative examination, you gain information that can help you make intelligent decisions.

Standards for Comparison Naturally, not all of the factors you use in comparing are equally important in your decision-making. How do you determine which factors are more important than others and which information is more relevant than other information? Unfortunately, there is no simple formula for answering these questions. For example, review the lists you completed previously and place a check next to the factors that played an important part in your decision to buy the item. These factors represent the comparative information you found to be most important and relevant and probably reflect your needs and purposes. If you are on a limited budget, price differences may play a key role in your decision. If money is no object, your decision may have been based solely on the quality of the item or on some other consideration.

Even though there is no hard and fast way to determine which areas of comparison are most important, it does help you to become aware of the factors that are influencing your perceptions and decisions. These areas of comparison represent the standards you use to come to conclusions, and a critical and reflective examination of these standards can help you sharpen, clarify, and improve them.

When making comparisons, there are pitfalls you should try to avoid:

- *Incomplete comparisons.* This difficulty arises when you focus on too few points of comparison. For example, in looking for a competent surgeon to operate on you, you might decide to focus only on the fee that each doctor charges. Even though this may be an important area for comparative analysis, you would be foolish to overlook other areas of comparison, such as medical training, experience, recommendations, and success rates.
- *Selective comparisons.* This problem occurs when you take a one-sided view of a comparative situation—when you concentrate on the points favoring one side of the things being compared but overlook the points favoring the other

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side. For example, in selecting a dependable friend to perform a favor for you, you may focus on Bob because he is your best friend and you have known him the longest, but you may overlook the fact that he let you down the last few times you asked him to do something for you.

Thinking Activity 8.4

ANALYZING COMPARATIVE RELATIONSHIPS

Review the following passages, which use comparative patterns of thinking to organize the ideas being presented. For each passage do the following:

1. Identify the key ideas being compared.
2. Analyze the points of similarity and dissimilarity between the ideas being presented by using a mind map like the diagram on page 287.
3. Describe the conclusions to which the passage leads you.

> The difference between an American cookbook and a French one is that the former is very accurate and the second exceedingly vague. American recipes look like doctors' prescriptions. Perfect cooking seems to depend on perfect dosage. You are told to take a teaspoon of this and a tablespoon of that, then to stir them together until thoroughly blended. A French recipe seldom tells you how many ounces of butter to use to make *crêpes suzette,* or how many spoonfuls of oil should go into a salad dressing. French cookbooks are full of unusual measurements such as a *pinch* of pepper, a *suspicion* of garlic, or a *generous sprinkling* of brandy. There are constant references to seasoning *to taste,* as if the recipe were merely intended to give a general direction, relying on the experience and art of the cook to make the dish turn out right.
>
> —Raoul de Roussy de Sales, "American and French Cookbooks"

> The rapidity of change and the speed with which new situations are created follow the impetuous and heedless pace of man rather than the deliberate pace of nature. Radiation is no longer merely the background radiation of rocks, the bombardment of cosmic rays, the ultraviolet rays of the sun that have existed before there was any life on earth; radiation is now the unnatural creation of man's tampering with the atom. The chemicals to which life is asked to make its adjustment are no longer merely the calcium and silica and copper and all the rest of the minerals washed out of the rocks and carried in rivers to the sea; they are the synthetic creations of man's inventive mind, brewed in his laboratories, and having no counterparts in nature. To adjust to these chemicals would require time on the scale that is nature's; it would require not merely the years of a man's life but the life of generations. And even this, were it by some miracle possible, would be futile, for the new chemicals come from our laboratories in an endless stream; almost five hundred annually find their way into actual use in the United States alone.
>
> —Rachel Carson, *Silent Spring*

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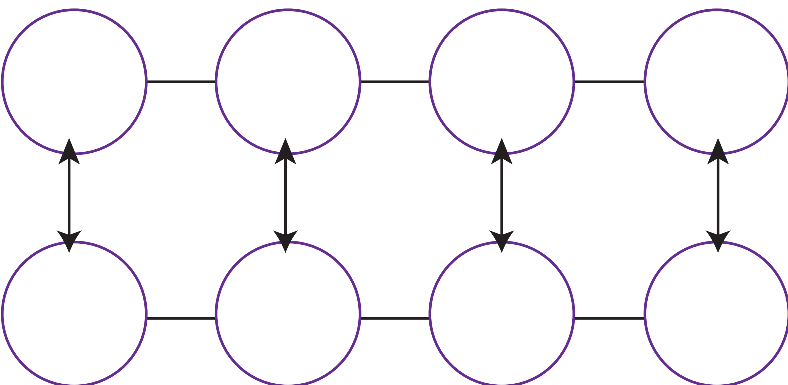

Analogical Relationships

We noted earlier that comparative relationships involve examining the similarities and differences of two items in the same general category, such as items on a menu or methods of birth control. There is another kind of comparison, however, that does not focus on things in the same category. Such comparisons are known as *analogies,* and their goal is to clarify or illuminate a concept from one category by saying that it is the same as a concept from a very different category.

The purpose of an analogy is not the same as the purpose of the comparison we considered in the last section. At that time, we noted that the goal of comparing similar things is usually to make a choice and that the process of comparing can provide you with information on which you can base an intelligent decision. The main goal of an **analogy,** however, is not to choose or decide; it is to illuminate our understanding. Identifying similarities between very different things can often stimulate you to see these things in a new light, from a different perspective than you are used to. This can result in a clearer and more complete understanding of the things being compared. Consider the following example:

> Life's but a walking shadow, a poor player
> That struts and frets his hour upon the stage
> And then is heard no more.
>
> —William Shakespeare, *Macbeth*

In this famous quotation, Shakespeare is comparing two things that at first glance don't seem to have anything in common at all: life and an actor. Yet as you look closer at the comparison, you begin to see that even though these two things are unlike in many ways, there are also some very important similarities between them. What are some of these similarities?

We ourselves often use analogies to get a point across to someone else. Used appropriately, analogies can help you illustrate and explain what you are trying to

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analogy A comparison between things that are basically dissimilar made for the purpose of illuminating our understanding of the things being compared

communicate. This is particularly important when you have difficulty in finding the right words to represent your experiences. Powerful or complex emotions can make you speechless or make you say things like "Words cannot describe what I feel." Imagine that you are trying to describe your feelings of love and caring for another person. To illustrate and clarify the feelings you are trying to communicate, you might compare your feelings of love to "the first rose of spring," noting the following similarities:

- Like the first rose, this is the first great love of my life.
- Like the fragile yet supple petals of the rose, my feelings are tender and sensitive.
- Like the beauty of the rose, the beauty of my love should grow with time.

What are some other comparisons of love to a rose?

- Like the color of the rose, . . .
- Like the fragrance of the rose, . . .
- Like the thorns of the rose, . . .

Another favorite subject for analogies is the idea of the meaning or purpose of life, which the simple use of the word *life* does not communicate. You have just seen Shakespeare's comparison of life to an actor. Here are some other popular analogies involving life. What are some points of similarity in each of these comparisons?

- Life is just a bowl of cherries.
- Life is a football game.
- Life is like a box of chocolates.
- "Life is a tale told by an idiot, full of sound and fury, signifying nothing." (Shakespeare)

Create an analogy for life representing some of your feelings, and explain the points of similarity.

- Life is . . .

In addition to communicating experiences that resist simple characterization, analogies are useful when you are trying to explain a complicated concept. For instance, you might compare the eye to a camera lens or the immunological system of the body to the National Guard (corpuscles are called to active duty and rush to the scene of danger when undesirable elements threaten the well-being of the organism).

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Analogies possess the power to bring things to life by evoking images that illuminate the points of comparison. Consider the following analogies and explain the points of comparison that each author is trying to make:

- "Laws are like cobwebs, which may catch small flies, but let wasps and hornets break through." (Jonathan Swift)
- "I am as pure as the driven slush." (Tallulah Bankhead)
- "He has all the qualities of a dog, except its devotion." (Gore Vidal)

Similes and Metaphors From the examples discussed so far, you can see that analogies have two parts: an *original subject* and a *compared subject* (what the original is being likened to). In comparing your love to the first rose of spring, the original subject is your feelings of love and caring for someone, whereas the compared subject is what you are comparing those feelings to in order to illuminate and express them—namely, the first rose of spring.

In analogies, the connection between the original subject and the compared subject can either be obvious (explicit) or implied (implicit). For example, you can echo the lament of the great pool hustler Minnesota Fats and say, "A pool player in a tuxedo is like a hot dog with whipped cream on it." This is an obvious analogy (known as a **simile**) because you have explicitly noted the connection between the original subject (pool player in a tuxedo) and the compared subject (hot dog with whipped cream) by using the comparative term *like.* (Sometimes the structure of the sentence calls for *as* in a similar position.)

simile An explicit comparison between basically dissimilar things made for the purpose of illuminating our understanding of the things being compared

You could also have used other forms of obvious comparison, such as "is similar to," "reminds me of," or "makes me think of." In this case, you could say, "A pool player in a tuxedo is a hot dog with whipped cream on it." Here, you are making an implied analogy (known as a **metaphor**) because you have not included any words that point out that you are making a comparison. Instead, you are stating that the original subject *is* the compared subject. Naturally, you are assuming that most people will understand that you are making a comparison between two different things and not describing a biological transformation.

metaphor An implied comparison between basically dissimilar things made for the purpose of illuminating our understanding of the things being compared

Create a *simile* (obvious analogy) for a subject of your own choosing, noting at least two points of comparison.

Subject

1.

2.

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Create a *metaphor* (implied analogy) for a subject of your own choosing, noting at least two points of comparison.

Subject

1.

2.

Thinking Activity 8.5

ANALYZING ANALOGICAL RELATIONSHIPS

Read the following passage, which uses an analogical pattern of thinking. Identify the major ideas being compared and describe the points of similarity between them. Explain how the analogy helps illuminate the subject being discussed.

> The mountain guide, like the true teacher, has a quiet authority. He or she engenders trust and confidence so that one is willing to join the endeavor. The guide accepts his leadership role, yet recognizes that success (measured by the heights that are scaled) depends upon the close cooperation and active participation of each member of the group. He has crossed the terrain before and is familiar with the landmarks, but each trip is new and generates its own anxiety and excitement. Essential skills must be mastered; if they are lacking, disaster looms. The situation demands keen focus and rapt attention; slackness, misjudgment, or laziness can abort the venture. The teacher is not a pleader, not a performer, not a huckster, but a confident, exuberant guide on expeditions of shared responsibility into the most exciting and least-understood terrain on earth—the mind itself.
>
> —Nancy K. Hill, "Scaling the Heights: The Teacher as Mountaineer"

Thinking Activity 8.6

CREATING ANALOGIES TO CAPTURE LIFE

Analogies are powerful tools to capture our thoughts and emotions about events in our lives that are profound or traumatic. The authors of articles describing the terrorist attacks on the World Trade Center towers and the Pentagon use a variety of analogies to communicate their intense feelings, including

- A hellish storm of ash, glass, smoke, and leaping victims
- The twisted, smoking, ash-choked carcasses of the twin towers
- The similarity to the special effects in the Hollywood film *Independence Day*
- The deeply scarred Pentagon, still on fire, suggesting the loss of America's collective sense of security

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- The intense heat causing the seemingly invincible steel beams of the towers to melt like cotton candy
- The scenario of a Tom Clancy thriller or Spielberg blockbuster now unfolding live on the world's television screens
- In a grotesque parody of the tickertape parades that characterize New York celebrations, thousands of pieces of office paper being carried on the gusting wind

ONLINE RESOURCES
Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** to read articles describing the terrorist attacks on the World Trade Center and the Pentagon.

Select an event that you have personally experienced that has an intense and profound meaning to you. Compose a description of that experience that makes use of powerful analogies to communicate your thoughts and feelings.

Causal Relationships

Causal patterns of thinking involve relating events in terms of the influence or effect they have on one another. For example, if you were right now to pinch yourself hard enough to feel it, you would be demonstrating a cause and effect relationship. Stated very simply, a *cause* is anything that is responsible for bringing about something else—usually termed the *effect*. The cause (the pinch) brings about the effect (the feeling of pain). When you make a causal statement, you are merely stating that a causal relationship exists between two or more things: The pinch *caused* the pain in my arm.

Of course, when you make (or think) causal statements, you do not always use the word *cause*. For example, the following statements are all causal statements. In each case, underline the cause and circle the effect.

- Since I was the last person to leave, I turned off the lights.
- Taking lots of vitamin C really cured me of that terrible cold I had.
- I accidentally toasted my hand along with the marshmallows by getting too close to the fire.

In these statements, the words *turned off*, *cured*, and *toasted* all point to the fact that something has caused something else to take place. Our language contains thousands of these causal "cousins."

You make causal statements all the time, and you are always thinking in terms of causal relationships. In fact, the goal of much of your thinking is to figure out why something happened or how something came about, for if you can figure out how

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Thinking Critically About Visuals

The Places We Think

One year after Hurricane Katrina ravaged the Gulf Coast region of the United States, many schools were still in ruins, and teachers and students had not returned to either their classrooms or their homes.

In Chapter 6, we explored different layers of meanings of words. Now, apply those different kinds of meaning to a place—specifically, a classroom. How does the physical space and "look" of an average classroom shape the activities and interactions that happen within its walls? How does your understanding of the meaning of "classroom" affect your response to this photograph?

and why things occur, you can then try to predict what will happen in the future. These predictions of anticipated results form the basis of many of your decisions. For example, the experience of toasting your hand along with the marshmallows might lead you to choose a longer stick for toasting—simply because you are able to figure out the causal relationships involved and then make predictions based on your

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Empty office cubicles await the start of another workday. Cubicles arranged in large windowless spaces (often sarcastically referred to as "cube farms") became part of the American workplace in the mid-1960s, as the economy moved away from manufacturing and toward service- and information-based industries.

Based on your work experience, how did the physical space of your workplace convey particular messages to your customers or influence the way in which you performed your job? How are office spaces and classrooms analogous to each other, in both their physical appearances and their ultimate purposes?

understanding (namely, a longer stick will keep your hand farther away from the fire, which will prevent it from getting toasted).

Consider the following activities, which you probably performed today. Each activity assumes that certain causal relationships exist, which influenced your decision to perform them. Explain one such causal relationship for each activity.

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- Brushing your teeth. The *causal relationship* is _______________.
- Locking the door. The *causal relationship* is _______________.
- Studying for an exam. The *causal relationship* is _______________.

Causal Chains

Although you tend to think of causes and effects in isolation—*A* caused *B*—in reality causes and effects rarely appear by themselves. Causes and effects generally appear as parts of more complex patterns, including three that we will examine here:

- Causal chains
- Contributory causes
- Interactive causes

Consider the following scenario: Your paper on the topic "Is there life after death?" is due on Monday morning. You have reserved the whole weekend to work on it and are just getting started when the phone rings—your best friend from childhood is in town and wants to stay with you for the weekend. You say yes. By Sunday night, you've had a great weekend but have made little progress on your paper. You begin writing, when suddenly you feel stomach cramps—it must have been those raw oysters that you had for lunch! Three hours later, you are ready to continue work. You brew a pot of coffee and get started. At 3:00 A.M. you are too exhausted to continue. You decide to get a few hours of sleep and set the alarm clock for 6:00 A.M., giving you plenty of time to finish up. When you wake up, you find that it's 9:00 A.M.—the alarm failed to go off! Your class starts in forty minutes, and you have no chance of getting the paper done on time. As you ride to school, you go over the causes for this disaster in your mind. You are no longer worried about life after death—you are now worried about life after this class!

- What causes in this situation are responsible for your paper being late?
- What do you think is the single most important cause?
- What do you think your teacher will identify as the most important cause? Why?

A *causal chain*, as you can see from these examples, is a situation in which one thing leads to another, which then leads to another, and so on. There is not just *one* cause for the resulting effect; there is a whole string of causes. Which cause in the string is the "real" cause? Your answer often depends on your perspective on the situation. In the example of the unfinished paper on the topic "Is there life after death?" you might see the cause as a faulty alarm clock. The teacher, however, might see the cause as an overall lack of planning. Proper planning, she might say, does not involve leaving things until the last minute, when unexpected problems can prevent you from reaching your goal. You can illustrate this causal structure with the following diagram:

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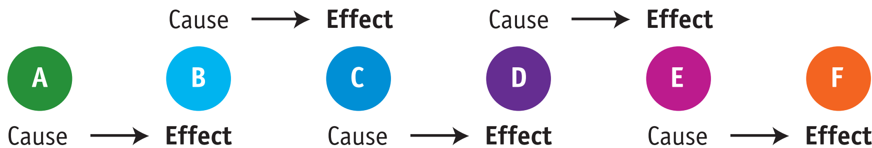


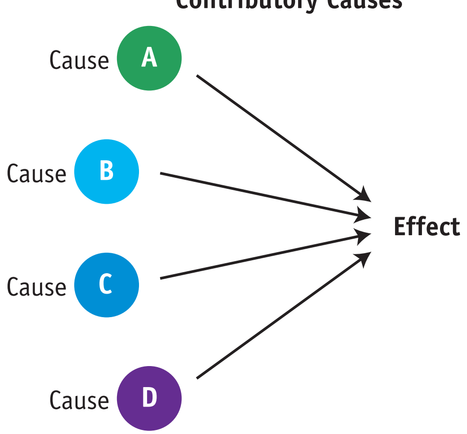
Thinking Activity 8.7

CREATING A CAUSAL CHAIN

1. Create a similar scenario of your own, detailing a chain of causes that results in being late for class, standing someone up for a date, failing an exam, or producing another effect of your own choosing.
2. Review the scenario you have just created. Explain how the "real" cause of the final effect could vary, depending on your perspective on the situation.

Contributory Causes

In addition to operating in causal chains over a period of time (*A* leads to *B*, which leads to *C*, which leads to *D*, and so on), causes can act simultaneously to produce an effect. When this happens (as it often does), you have a situation in which a number of different causes are instrumental in bringing something about. Instead of working in isolation, each cause *contributes* to bringing about the final effect. When this situation occurs, each cause serves to support and reinforce the action of the other causes, a structure illustrated in the following diagram:



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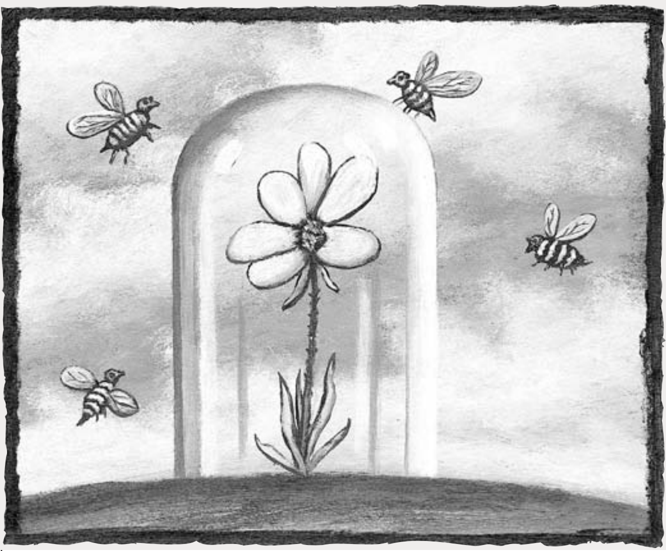
Consider the following situation: It is the end of the term, and you have been working incredibly hard at school—writing papers, preparing for exams, finishing up course projects. You haven't been getting enough sleep, and you haven't been eating regular or well-balanced meals. To make matters worse, you have been under intense pressure in your personal life, having serious arguments with the person you have been dating. You find that this situation is constantly on your mind. It is also the middle of the flu season, and many of the people you know have been sick with various bugs. Walking home from school one evening, you get soaked by an unexpected shower. By the time you get home, you are shivering. You soon find yourself in bed with a thermometer in your mouth—you are sick!

What was the "cause" of your getting sick? In this situation, you can see it probably was not just *one* thing that brought about your illness. It was probably a combination of different factors that led to your physical breakdown: having low resistance, getting wet and chilled, being exposed to various germs and viruses, being physically exhausted, not eating properly, and so on. Taken by itself, no one factor might have been enough to cause your illness. Working together, they all contributed to the final outcome.

Visual Thinking

"The Birds and the Bees, the Flowers and the Trees"
How is the natural causal order being thwarted in this illustration? Describe an incident in which your cause and effect plan didn't happen as you expected. What went wrong?



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Thinking Activity 8.8

CREATING A SCENARIO OF CONTRIBUTORY CAUSES

Create a similar scenario of your own, detailing the contributory causes that led to asking someone for a date, choosing a major, losing or winning a game you played in, or producing an effect of your own choosing.

Interactive Causes

Our examination of causal relationships has revealed that causes rarely operate in isolation but instead often influence (and are influenced by) other factors. Imagine that you are scheduled to give a speech to a large group of people. As the time for your moment in the spotlight approaches, you become anxious, which results in a dry mouth and throat, making your voice sound more like a croak. The prospect of sounding like a bullfrog increases your anxiety, which in turn dries your mouth and constricts your throat further, reducing your croak to something much worse—silence.

This not uncommon scenario reveals the way different factors can relate to one another through reciprocal influences that flow back and forth from one to the other. This type of causal relationship, which involves an *interactive* thinking pattern, is an extremely important way to organize and make sense of your experiences. For example, to understand social relationships, such as families, teams, or groups of friends, you have to understand the complex ways each individual influences—and is influenced by—all the other members of the group.

Understanding biological systems and other systems is similar to understanding social systems. To understand and explain how an organ like your heart, liver, or brain functions, you have to describe its complex, interactive relationships with all the other parts of your biological system.

Thinking Activity 8.9

ANALYZING CAUSAL RELATIONSHIPS

Read the following passage, which deals with the collapse of the World Trade Center. What are the causal relationships that resulted in the collapse?

> . . . Since the collapse of the World Trade Center towers, on September 11th, structural engineers and their profession have received a great deal of public attention. . . .
>
> Of course, you don't need an engineer to tell you why the towers fell down: two Boeing 767s, travelling at hundreds of miles an hour, and carrying more than ten thousand gallons of jet fuel each (if you converted the energy in the Oklahoma City bomb into jet fuel, it would amount to only fifty-one gallons), crashed into the north and south buildings at 8:45 A.M. and 9:06 A.M., respectively, causing them to fall—the south tower at 9:59 A.M. and the north tower at ten-twenty-eight.

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Nor do we need a government panel to tell us that the best way to protect tall buildings is to keep airplanes out of them. Nevertheless, there is considerable debate among experts about precisely what order of events precipitated the collapse of each building, and whether the order was the same in both towers. Did the connections between the floors and the columns give way first or did the vertical supports that remained after the impact lose strength in the fire, and, if so, did the exterior columns or the core columns give way first? . . .

Was there any way for the structural engineers and architects involved in building the towers to know that they were going to collapse, and how quickly? . . .

Among the dozens of people I have spoken to recently who are experts in the construction of tall buildings (and many of whom witnessed the events of September 11th as they unfolded), only one said that he knew immediately, upon learning, from TV, of the planes' hitting the buildings, that the towers were going to fall. This was Mark Loizeaux, the president of Controlled Demolition Incorporated, a Maryland-based family business that specializes in reducing tall buildings to manageable pieces of rubble. "Within a nanosecond," he told me. "I said, 'It's coming down. And the second tower will fall first, because it was hit lower down.' " . . .

Loizeaux said he had an enhanced video of the collapses, and he talked about them in a way that indicated he had watched the video more than once. "First of all, you've got the obvious damage to the exterior frame from the airplane—if you count the number of external columns missing from the sides the planes hit, there are about two thirds of the total. And the buildings are still standing, which is amazing—even with all those columns missing, the gravity loads have found alternate pathways. O.K., but you've got fires—jet-fuel fires, which the building is not designed for, and you've also got lots of paper in there. Now, paper cooks. A paper fire is like a coal-mine fire: it keeps burning as long as oxygen gets to it. And you're high in the building, up in the wind, plenty of oxygen. So you've got a hot fire. And you've got these floor trusses, made of fairly thin metal, and fire protection has been knocked off most of them by the impact. And you have all this open space—clear span from perimeter to core—with no columns or partition walls, so the airplane is going to skid right through that space to the core, which doesn't have any reinforced concrete in it. Just sheetrock covering steel, and the fire is going to spread everywhere immediately, and no fire-protection systems are working—the sprinkler heads shorn off by the airplanes, the water pipes in the core are likely cut. So what's going to happen? Floor A is going to fall onto floor B, which falls onto floor C; the unsupported columns will buckle; and the weight of everything above the crash site falls onto what remains below—bringing loads of two thousand pounds per square foot, plus the force of the impact, onto floors designed to bear one hundred pounds per square foot. It has to fall." . . .

—John Seabrook, "The Tower Builder"

ONLINE RESOURCES

Visit the student website for *Thinking Critically* at **college.hmco.com/pic/chaffeetc9e** for additional examples of causal relationships, as well as a portfolio of images of the World Trade Center.

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Visual Thinking

Why . . . ?

What is the emotional impact of this photograph on you? How does the juxtaposition of the World Trade Center wreckage with a New York City firefighter affect your perception? When you see photographs like this of the WTC remnant forked into the ground, do they have any special symbolic meaning for you?

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Final Thoughts

Concepts are the vocabulary of thought, the general ideas that we use to represent our world; thinking patterns are the vehicles we use to relate and organize concepts so that we can make sense of our world. In this chapter you have examined a number of basic thinking patterns that can enable you to organize your experiences into relationships that have meaning to you:

- Chronological and process relationships
- Comparative and analogical relationships
- Causal relationships

Each of these thinking patterns helps you figure out what has happened in the past, what is occurring in the present, and what will happen in the future. You use these patterns to reveal the way the world is and also to impose your own interpretation on the events of your experience. In this sense we are all scientists and artists, both deciphering the mysteries of the world and composing our own unique perspectives on it. All of us perform these activities in distinctive ways and construct a view of the world that is uniquely our own. As you refine your abilities to relate and organize the conceptual vocabulary of your mind, you are improving the power and creativity of your thinking processes while at the same time developing a more accurate understanding of the world.

Thinking Passage

ENVIRONMENTAL ISSUES

The impact of human civilization on the environment has taken on increasing urgency as global warming, the razing of rain forests, the search for sustainable fuel sources, and our dependence on factory-farmed or genetically modified food are discussed and debated in the media. All these factors affect the most basic aspects of our lives, from the quality of our air to the safety of our next meal. In the following article, "Worried? Us?" Bill McKibben considers the phenomenon of global warming and the complicated causal relationships between humans and the natural world. As you read, watch for the author's development of different kinds of causal connections, and evaluate the clarity and effectiveness of his arguments.

Worried? Us?

by Bill McKibben

For fifteen years now, some small percentage of the world's scientists and diplomats and activists has inhabited one of those strange dreams where the dreamer desperately needs to warn someone about something bad and imminent;

Source: Bill McKibben, "Worried? Us?" *Granta, 83,* Fall 2003. Reprinted by permission of Bill McKibben, author of *The End of Nature.*

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but somehow, no matter how hard he shouts, the other person in the dream—standing smiling, perhaps, with his back to an oncoming train—can't hear him. This group, this small percentage, knows that the world is about to change more profoundly than at any time in the history of human civilization. And yet, so far, all they have achieved is to add another line to the long list of human problems—people think about "global warming" in the way they think about "violence on television" or "growing trade deficits," as a marginal concern to them, if a concern at all. Enlightened governments make smallish noises and negotiate smallish treaties; enlightened people look down on America for its blind piggishness. Hardly anyone, however, has fear in their guts.

Why? Because, I think, we are fatally confused about time and space. Though we know that our culture has placed our own lives on a demonic fast-forward, we imagine that the earth must work on some other timescale. The long slow accretion of epochs—the Jurassic, the Cretaceous, the Pleistocene—lulls us into imagining that the physical world offers us an essentially stable background against which we can run our race. Humbly, we believe that the world is big and that we are small. This humility is attractive, but also historic and no longer useful. In the world as we have made it, the opposite is true. Each of us is big enough, for example, to produce our own cloud of carbon dioxide. As a result, we—our cars and our industry—have managed to raise the atmospheric level of carbon dioxide, which had been stable at 275 parts per million throughout human civilization, to about 380 parts per million, a figure that is climbing by one and a half parts per million each year. This increase began with the Industrial Revolution in the eighteenth century, and it has been accelerating ever since. The consequence, if we take a median from several respectable scientific projections, is that the world's temperature will rise by five degrees Fahrenheit (roughly two and a half degrees Celsius) over the next hundred years, to make it hotter than it has been for 400 million years. At some level, these are the only facts worth knowing about our earth.

Fifteen years ago, it was a hypothesis. Those of us who were convinced that the earth was warming fast were a small minority. Science was skeptical, but set to work with rigour. Between 1988 and 1995, scientists drilled deep into glaciers, took core samples from lake bottoms, counted tree rings, and, most importantly, refined elaborate computer models of the atmosphere. By 1995, the almost impossibly contentious world of science had seen enough. The world's most distinguished atmospheric chemists, physicists and climatologists, who had organized themselves into a large collective called the Intergovernmental Panel on Climate Change, made their pronouncement: "The balance of evidence suggests that there is a discernible human influence on global climate." In the eight years since, science has continued to further confirm and deepen these fears, while the planet itself has decided, as it were, to peer-review their work with a succession of ominously hot years (1998 was the hottest ever, with 2002 trailing by only a

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few hundredths of a degree). So far humanity has raised the planet's temperature by about one degree Fahrenheit, with most of that increase happening after 1970—from about fifty-nine degrees Fahrenheit, where it had been stuck since the first cities rose and the first crops grew, to about sixty degrees. Five more degrees in the offing, as I have said, but already we understand, with an almost desperate clarity, how finely balanced our world has been. One degree turns out to be a lot. In the cryosphere—the frozen portions of the planet's surface—glaciers are everywhere in rapid retreat (spitting out Bronze Age hunter-gatherers). The snows of Kilimanjaro are set to become the rocks of Kilimanjaro by 2015. Montana's Glacier National Park is predicted to lose its last glaciers by 2030. We know how thick Arctic ice is—we know it because Cold War nuclear-powered submarines needed the information for their voyages under the ice cap. When the data was declassified in the waning days of the Clinton administration, it emerged that Arctic ice was forty per cent thinner than it had been forty years before. *Perma*frost is melting. Get it?

"Global warming" can be a misleading phrase—the temperature is only the signal that extra solar radiation is being trapped at the earth's surface. That extra energy drives many things: wind-speeds increase, a reflection of the increasing heat-driven gradients between low and high pressure; sea level starts to rise, less because of melting ice caps than because warm air holds more water vapour than cold; hence evaporation increases and with it drought, and then, when the overloaded clouds finally part, deluge and flood. Some of these effects are linear. A recent study has shown that rice fertility drops by ten per cent for each degree Celsius that the temperature rises above thirty degrees Celsius during the rice plant's flowering. At forty degrees Celsius, rice fertility drops to zero. But science has come to understand that some effects may not follow such a clear progression. To paraphrase Orwell, we may all be hot, but some will be hotter than others. If the Gulf Stream fails because of Arctic melting, some may, during some seasons, even be colder.

The success of the scientific method underlines the failure of the political method. It is clear what must happen—the rapid conversion of our energy system from fossil to renewable fuels. And it is clear that it could happen—much of the necessary technology is no longer quixotic, no longer the province of backyard tinkerers. And it is also clear that it isn't happening. Some parts of Europe have made material progress—Denmark has built great banks of windmills. Some parts of Europe have made promises—the United Kingdom thinks it can cut its carbon emissions by sixty per cent by 2050. But China and India are still building power plants and motorways, and the United States has made it utterly clear that nothing will change soon. When Bill Clinton was President he sat by while American civilians traded up from cars to troop-transport vehicles; George Bush has not only rejected the Kyoto treaty, he has ordered the Environmental Protection Agency to replace "global warming" with the less ominous "climate change," and issued a national energy policy that foresees ever more drilling, refining and burning. Under it, American carbon emissions will grow another forty per cent in the next generation.

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As satisfying as it is to blame politicians, however, it will not do. Politicians will follow the path of least resistance. So far there has not been a movement loud or sustained enough to command political attention. Electorates demand economic prosperity—more of it—above all things. Gandhianism, the political philosophy that restricts material need, is now only a memory even in the country of its birth. And our awareness that the world will change in every aspect, should we be so aware, is muted by the future tense, even though that future isn't far away, so near in fact that preventing global warming is a lost cause—all we can do now is to try to keep it from getting utterly out of control.

This is a failure of imagination, and in this way a literary failure. Global warming has still to produce an Orwell or a Huxley, a Verne or a Wells, a *Nineteen Eighty-Four* or a *War of the Worlds,* or in film any equivalent of *On the Beach* or *Doctor Strangelove.* It may never do so. It may be that because—fingers crossed—we have escaped our most recent fear, nuclear annihilation via the Cold War, we resist being scared all over again. Fear has its uses, but fear on this scale seems to be disabling, paralysing. Anger has its uses too, but the rage of anti-globalization demonstrators has yet to do more than alienate majorities. Shame sends a few Americans shopping for small cars, but on the whole America, now the exemplar to the world, is very nearly unshameable.

My own dominant feeling has always been sadness. In 1989, I published *The End of Nature,* the first book for a lay audience about global warming. Half of it was devoted to explaining the science, the other half to my unease. It seemed, and still seems, to me that humanity has intruded into and altered every part of the earth (or very nearly) with our habits and economies. Thoreau once said that he could walk half an hour from his home in Concord, Massachusetts, and come to a place where no man stood from one year to the next, and "there consequently politics are not, for politics are but the cigar smoke of a man." Now that cigar smoke blows everywhere.

Paradoxically, the world also seems more lonely. Everything else exists at our sufferance. Biologists guess that the result of a rapid warming will be the greatest wave of extinction since the last asteroid crashed into the earth. Now we are the asteroid. The notion that we live in a God-haunted world is harder to conjure up. God rebuked Job: "Were you there when I wrapped the ocean in clouds . . . and set its boundaries, saying, 'Here you may come but no farther. Here shall your proud waves break . . . Who gathers up the stormclouds, slits them and pours them out?' " Job, and everyone else until our time, had the sweet privilege of shutting up in the face of that boast—it was clearly God or gravity or some force other than us. But as of about 1990 we can answer back, because we set the sea level now, and we run the storm systems. The excretion of our economy has become the most important influence on the planet we were born into. We're what counts.

Our ultimate sadness lies in the fact that we know that this is not a preordained destiny; it isn't fate. New ways of behaving, of getting and spending, can

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still change the future; there is, as the religious evangelist would say, still time, though not much of it, and a miraculous conversion is called for—Americans in the year 2000 produced fifteen per cent more carbon dioxide than they had ten years before.

The contrast between two speeds is the key fact of our age: between the pace at which the physical world is changing and the pace at which human society is reacting to this change. In history, if it exists, we shall be praised or damned.

Questions for Analysis

1. In sounding the worldwide alarm regarding what he believes to be the imminent threat posed by global warming, McKibben states, " 'Global warming' can be a misleading phrase—the temperature is only the signal that extra solar radiation is being trapped at the earth's surface." What are some of the profound effects that he believes results from this extra solar radiation? What are the causal connections responsible for these effects?
2. Despite the accumulating evidence that global warming poses a dire threat to the health of the entire planet, McKibben believes that most people do not seem to take this threat very seriously, lacking "fear in their guts." What are the reasons for this lack of fear?
3. McKibben contends that it is not too late to avoid a global disaster brought on by global warming. What does he believe needs to be done, and why will these measures halt or reverse the causal trends that are currently operating?
4. McKibben observes that the theme of global warming has yet to produce a book or film that dramatizes the threat of global warming in a way that will serve to inspire governments and individuals to take serious action. Is Al Gore's film *An Inconvenient Truth,* which won an Oscar in 2007, such a film?

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