1

What Is Thinking?

We are such stuff as thoughts are made on.
—ADAPTED FROM SHAKESPEARE

This first chapter is a "minds on" chapter in which we encourage you to engage your mind and plunge into thinking. But first, we will meet some powerful thinkers who have preceded us, and then think more deeply about their thoughts later.

OUR CULTURAL LEGACY

Humans were speaking, and thus thinking, many millennia before the Sumerians, the Egyptians, and the Phoenicians learned to record their thoughts. The Greeks took their alphabet and burst forth into song, literature, philosophy, rhetoric, history, art, politics, and science. Corax of Syracuse, perhaps the first rhetorician, taught us how to use words to pierce into other minds. The sophists, skeptics, and cynics asked us to question everything, including our own questioning. Socrates probed and prodded the Athenians to think: "The unexamined life is not worth living," he said. And he threw down to us the ultimate gauntlet: "Know thyself." Plato was so caught up with Socrates and with the pure power of the mind that he thought we were born with ideas and that these innate ideas were as close as we could come to divinity. Plato's pupil, Aristotle, sharpened his senses into impressive empirical observations that climbed toward first principles; then he honed his mind into the absolute logic of the syllogism that stepped inexorably, deductively downward.

The Roman rhetoricians—Cicero, Tertullian, and Quintilian—built massive structures of the mind and legal mentalities that rivaled Rome's architectural vastness.

The medieval thinkers, mental to a point that matched their ethereal goals, created mental structures mainly out of Plato, fortified with the logic of Aristotle. Aquinas, in his *Summa,* forged an unmatched mental creation that, if one grants his premises, still stands as an unassailable mountain of the mind. In contrast to much of this abstraction was the clean cut of Ockhams's razor, slicing off unnecessary entities, and the welcome freshness of Anselm, who preempted Descartes by stating: "I doubt, therefore I know."

The Renaissance thinkers turned their minds and energies to earthly navigation, sidereal science, art, pleasure, and empire. Some of their thinkers, like Leonardo da Vinci, returned to the Greeks (Archimedes); some like Montaigne recovered rich ore in the Romans, sifted by the skepticism described on a medal around his neck: "*que sais je*—what do I know?"

Pascal called his whole book of aphorisms *Thoughts.* Descartes echoed Anselm: "I think, therefore I am"; and Descartes pierced our mental pride telling us that "it is not enough to have a good mind. The main thing is to use it well" (*Les Discours, I*). Those were the French Rationalists.

No less rational, the British empiricists progressed from Locke's Aristotelian focus on the senses (*tabula rasa*), to Berkeley's idea that we can be sure only of our perceptions, to Hume's skepticism.

Hegel looked on all history as an idea unfolding, and Marx concretized and capitalized that idea.

Modern thinkers like Wittgenstein, Whorf, and Chomsky all enter the open, unfolding, and marvelous arena of the mind. They welcome us to come, enter with them, and think. . . .

WHY THINK?

Is anything more important than thinking? Is anything important that is not connected with thinking? STOP! Did you think about the first question before you read the second one? Our guess is that many of you kept reading; consequently, you may have missed a chance to think.

Thoughts Richer Than Gold

Take a look at the following very different lists. Are any of these more important than thinking?

	List A	List B	List C
1.	money	breathing	goodness
2.	good job	eating	life
3.	nice house	excreting	love
4.	new car	mating	truth

Think about list "A." Although money is high on the list of American dreams, it cannot be earned or spent without the ability to think. Imagine a chimpanzee (limited ability) or a mannequin (no ability) trying to earn money or even to spend a roomful. Clearly, the ability to think is more important than money, jobs, houses, or cars.

What about list "B"? Is breathing more important than thinking? At this point we need to think more sharply and define the word *important.* If *important* means a sequentially first or necessary condition for something else to exist, then breathing is more important than thinking, for without oxygen the thinking brain quickly dies. But if *important* means a higher order or value, then thinking is of a higher order than breathing because breathing "serves" the brain (which, by the way, uses a disproportionately large amount of the oxygen). Rarely, however, does the cerebral cortex "serve" breathing—such as when one is studying to be a respiratory therapist.

Another way to understand that thinking is of a higher order than breathing is to realize that many philosophers since Aristotle have defined humans as "thinking animals." In other words, horses and horseflies breathe, but thinking makes us human; if humans are of a higher order than animals, it is our thinking that makes us so. As a quality of a higher order, thinking is more important than eating, mating, excreting, or breathing.

And what do we think about list "C"? Are not love, life, truth, and goodness vast concepts of great importance? To weigh their importance against that of thinking would take many pages and much thought; but to judge quickly the worth of thinking, we can again ask the second question that began this section: Is anything important that is not connected with thinking?

If we have thought of anything, we have just used our thinking process; thus we have connected thinking to the item we thought of, regardless of how important the item is. Similarly, love, life, truth, and goodness are necessarily connected with thinking. We may be able to mate without much thinking, like two fireflies, but we cannot love without thinking. Thus we think as we "live" life.

THINKING ACTIVITY 1.1
Things More Important Than Thinking

Let's start thinking now: Can you list anything more important than thinking?

1. _____
2. _____
3. _____
4. _____

What is on your list? How did you determine its value?

Just how important is thinking in relation to life? Since we think largely with language, consider how Wittgenstein connects the two: "The limits of my language are the limits of my life." Is this an accurate statement? Does language limit life so strictly? If so, does this limitation show the importance of language and thinking? We meet this idea again in Chapter 5, Language: Our Thinking Medium.

Thinking as Possibility

Our life at this moment, as we read this book and make choices about our actions today, is strictly limited by how much we have learned and by the thinking patterns we have developed. We can only choose to do what we know; for example, we simply cannot search for a sunken treasure unless we know that it sank. And the more we know and the better we can think with our knowledge, the more successful we are likely to be. If we know that a Spanish galleon, laden with Inca gold, sank in the Caribbean, and if we can think about the route it might have followed, ocean currents, and its last reported sighting, then we might find the Spanish gold. More importantly, by thinking we might find the gold in our lives.

Thoughts Accumulate

Tennyson tells us that "we are a part of all that we have met." Likewise, we are also part of all that we have thought; to a degree, we have become what we have thought about, and who we will become is limited by how and what we think. If we reflected earlier about language limiting life, we probably realized that our thinking has set the boundaries for our past choices in life. We have chosen from what we have known and how we have been able to think about our knowledge.

Life Without Thinking

What if we got no new thoughts for the next ten years? Could we hold our jobs? What would we think about quarks and nanotechnology? How well would we talk to people?

If in the next ten years we choose to read many thoughtful books, will our mind be different? Will we be markedly different because of the books we read, the people we listen to, the thoughts we have, and the way we express those thoughts? Certainly, thoughts accumulate. We grow as we think, and thus we change our future ability to think.

Thoughts accumulate not just arithmetically but exponentially. Each thought has the potential to merge with others and create an enormous number of new th hts; for instance, just 46 items (your chromosomes) can be

assembled into 25,852,010,000,000,000,000,000 combinations. With a 6,000 word active vocabulary, imagine the creative combinations! In Chapter 7, Creative Thinking, we will learn how to form some of these combinations.

WHAT IS THINKING?

Right now you are thinking. Think about it. What are you doing? What is happening in your head as you think? Can you figure out how you have just processed these words into meaning? Simply put—how does your brain work?

The Mystery

Do not feel bad if you do not know the answer because neither do the experts. Humans have learned much about areas of the brain and neuro-electrochemical processes, but the way the brain works is still largely unknown. We know more of the basic principles of the universe, of the atom, and of our bodies than we do of our brains: Newton drew the lines of forces connecting the earth to the stars; Einstein formulated the energy in matter; Watson and Crick cracked the genetic code; but the model for the brain has not yet been found (*tabula rasa*, memory grooves, computer, hologram—and recently the metaphor itself). The brain remains a mystery.

Toward a Definition: Thinking as Communicating

If we do not understand the workings of the brain, if we cannot enter its inner sanctum and unfold its mystery, then how can we define thinking? One way to reach a definition is by observing the results of thinking as expressed in human communication. But what if some people claim that they do "thinking" that is totally internal and can never be externally communicated? We will not argue with them, but if they cannot talk about it or share it with us, their "thinking" cannot be useful to us. Therefore we can define thinking as *the activity of the brain which can be potentially communicated.* The media of communication are multiple: language (speaking, writing, signing, paralanguage, miming), images (blueprints, charts, symbols), art (drawing, painting, sculpting, modeling, architecture, music, dance), scientific formulas, and mathematics. All of these forms of communication hold their special subtleties and strengths, but far, and away the primary form of human communication is language; therefore, this book focuses on thinking as *the activity of the brain which can potentially be expressed in speaking or writing.*

Can be expressed includes, of course, the silent thinking that is almost always in our heads. Silent thinking is valuable and we use it ofte before act-

ing. But we also need to express our thoughts, to get them out of our heads so we can look at them more objectively and understand them better, so others can share their ideas about our thinking, and so, ultimately, we can think better.

THINKING AS COMMUNICATING: THE MIRROR OF THOUGHT

How do we think about our thinking? That's not an easy question because we are caught in a circle: trying to know our mind with our mind is analogous to trying to see our eyes with our eyes. The eyes need a reflector such as a mirror or a still pond to see themselves. Similarly, to understand our thinking we need a mirror for our mind. Writing or talking can provide just such a mirror.

Writing records our thinking on a piece of paper so that we can then examine it. Try writing for 60 seconds as fast as you can on whatever comes to your mind without censoring any thought. In that way you will be able to externalize some of your thinking.

This externalization will probably not give us an exact replication of our thinking, but will generate a cloudy mirror. The clouds will begin to clear if we repeat this activity often and learn to chart our thinking with our pen. Penning our thoughts is a challenge because the brain moves much faster than the pen, much faster than a "rapper" rapping 300 words per minute (WPM). The exact WPM of the brain is not known, but let us guess that it is about 500 to 700 WPM. Often the brain moves even faster because it does not think every word. Sometimes it leaps phrases and whole groups of ideas to jump to almost instant insight.

We can also find out much about ourselves by looking for patterns in those 60-second sketches: what are the *topics* that occupy our thoughts (people? things? money? work? home . . .) What is on our 60-second list? How much *time* do we spend rehashing the past, processing the present, planning the future, or daydreaming about our fantasies? Placing a percentage alongside those time frames (past, present, future) might amaze us.

Attempt these 60-second snapshots at different times and in different places to get other sketches of your mind. They will change greatly with your environment and your feelings.

Thinking as Writing: Clarity, Exactness, Awareness, Richness

Writing does more than mirror our mind, it can clarify it, sharpen our thinking, and enrich our mind with an understanding that was not there before we wrote.

Clarity is a gift writing gives to our thinking. Although many of us can "think on our feet," few humans can continually think crystal clearly. Our brains rarely function continually at a high level of clarity. With writing we have a chance to achieve some of that clarity. We can put our thinking on paper and excise the ambiguity. This sentence, for instance, has been reworked until several readers approved of its clarity. And this clarity achieved in writing might even influence the type of person we are becoming: Francis Bacon tells us that writing makes an "exact" person.

Besides offering clarity and exactness to our thinking, writing can intensify our physical and mental awareness. Just the attempt to describe what we are seeing, feeling, and thinking can allow us to see sharply, feel deeply, and think more clearly. Later we explore these areas more thoroughly, but a warm-up activity is given below:

THINKING ACTIVITY 1.2
Thinking/Sensing/Writing

Look around the room. In the first column quickly make a list of what you see.

1st	2nd	3rd

Now in the second column make a list of what you *did not* see before. You can become aware of what you missed by looking *between* the items on your first list. If, for instance, your first item is a blackboard and your second item a student, notice what is between the blackboard and the student that you overlooked. Go ahead now and make a second list of overlooked items.

These two lists can tell you a lot about what kind of data you are putting into your mind. The first list might contain your usual observations, your usual "input" to your brain. The second list might contain items that you usually pass over. Now for the third list, try to see the most minute details of what you again overlooked. Try to see reflections of light, surface undulations, scratches and dents so small and so specific

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THINKING ACTIVITY 1.2
Thinking/Sensing/Writing *(continued)*

that they become hard to describe because there may not be exact words for them in our language. Make a third list of small, sharp details that you see. To help you achieve this microscopic awareness, you may wish to peer into objects very close to you.

Has this third list helped you see new things? If you begin to record what you see, you will grow more alert and see what you never saw before. Try this looking activity in different places. And then attune yourself to the other senses of hearing, smell, touch, and taste. Respond with your feelings to what you sense. Finally, think about what you have sensed and felt. What does it mean?

Writing then, can mirror the mind, focus it into clarity, and present new awarenesses. Beyond these gifts, writing offers another rich gift that is a paradox: when we pour water out of a glass we are emptying the glass, but when we pour thoughts out of our brains onto paper we are filling our brain. As we assemble those thoughts into a new written structure, we are writing a new combination of words that was not in our brain before we wrote it down; hence, this powerful paradox: as we write something we create it both on the paper and in our mind. Thus, as we write we grow richer.

Byron expresses this paradox in words that challenge thinking, but the words are worth the effort:

'Tis to create, and in creating live
A being more intense, that we endow
With form our fancy, gaining as we give
The life we image.

Because of this importance of writing as expressed thought, throughout this book we pause at times to give you an opportunity to write out your thinking.

Thinking as Dialogue: Validation and Insight

We have seen that writing is a way to know, clarify, and enrich our thinking. Dialoguing is another way to attempt to know and understand our thinking. Dialoguing is simply talking with and listening to other people. They become the sounding boards, the graveyards, and the launching platforms of our thoughts. As we will see in Chapter 13, Evaluating, dialoguing is crucial to test our thoughts.

While we talk (which is our expressed thought) we can watch what effect our words have on others. Do people wrinkle their foreheads and repeatedly

ask us "what do you mean?" Or do our words quickly and easily get our ideas across? Do people lose interest in what we are saying, or do our words have the power, precision, and logic to gain attention, to hold attention, and to convince others? Their reactions give us information that helps to judge and adjust our thinking.

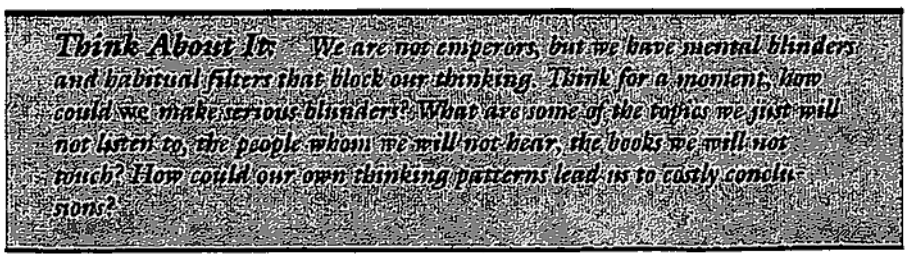
As we read these reactions we need to interpret them, but sometimes we get direct, focused comments from friends, students, or fellow learners who specifically critique our thinking as expressed in dialogue. At the end of this chapter, some activities provide practice in this critique.

Because human interaction is so important to our thinking, throughout this book we present activities that can be discussed, and we analyze the validity of dialogue in Chapter 13, Evaluating. Besides validating our thinking, dialoguing can stimulate our thinking. Our thoughts can resound and rebound with new shape and vigor from the thoughts of others. Our ideas can intermingle, cross-fertilize, and become the seeds for whole new species of thoughts. A single head is a lonely thinker; however, we can seek out classmates, friends, colleagues, and new acquaintances who can excite our mind.

MISTHINKING

The opposite of clear thinking is confusion, and it can lead to costly conclusions. A young American inventor appeared before Napoleon and offered him a means to defeat the British navy—a ship that would sail against the wind and waves and outmaneuver the British fleet. Napoleon scorned his offer, called the American a crackpot, and sent him away. That young man was Robert Fulton. Napoleon had just turned down the steamship.

Napoleon's thinking error was common to most of us: he was blinded by the past. In addition, he was blinded by his quick temper. Instead of opening his mind and asking how, his imperial temper might have cost him the war. In Chapter 2, Personal Barriers, we will examine our personal thinking tendencies and barriers that could blind us from thinking clearly.



SUMMARY

We have thought about the enormous importance of our thinking and how it can greatly impact our future. We have even had the audacity to rate thinking as more important than money. Although much of thinking remains a mystery in that vast, unexplored realm of our brain, writing and speaking can be an entry into our unknown selves. Writing can be a mirror of our thoughts, a mirror that can give us clarity, exactness, awareness, and richness. The opposite, cloudy thinking, may miss its mark and cost dearly.

We have just begun to probe the mystery of thinking. In coming chapters we will look more deeply into our thinking patterns and the way our language, beliefs, and values influence those patterns; we will then look at some of our major thinking "bases" of sensing, feeling, creating, organizing, reasoning, scientific thinking, persuading, and problem solving; finally we will look at evaluation, decision, and action.

THINKING CHALLENGES

We have already suggested several thinking activities that can begin to allow you to understand the thinking process. The following thinking challenges are designed to stimulate your thinking about issues related to this chapter. Your responses to the activities and questions that conclude each chapter might take various forms:

A journal entry
A chat with a friend
A dialogue with a student
A class discussion
A group discussion
A formal paper
A research project
An individual or group presentation

1. How do you think? How does your brain work?
2. Write, as you did for the "60-second snapshots," but for a longer time. Then look into your writings as the mirror of your mind; gradually, see if you can wipe some of the fog off the glass and begin to get some understanding of what is in your mind.
3. Is Wittgenstein accurate when he says that "the limits of my language are the limits of my life"?

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THINKING CHALLENGES (continued)

4. How might you think differently ten years from now according to the books you've read and the words you have written and spoken? What if you have not read any books?
5. Record a trip into your mind in any way you wish. You might try a stream of consciousness like the novelist, James Joyce, who just let the impressions of his mind pour out; you might make a list of associative thinking (for example black—white—snow—snowman—bully who knocked mine down . . .). Enter a fantasy, a daydream, or any kind of thinking. The point is to attempt to become more aware of what you think about and how you think.
6. Look around, in different places, and describe what you don't usually see or hear. Think about why you do not usually see those things. What does this tell you about the interests of your mind?
7. Dialogue with another, and attempt to read the reactions your words are having on that person. Judge your thinking processes accordingly.
8. Hold a discussion with one or two others in front of the class, and let the class observe the expressed thinking. Because this activity can result in some sensitive feedback, rules can be set, and volunteers can be chosen who have the self-confidence to deal with the class critique.
9. How might your thinking patterns lead you into costly errors?
10. Have you ever approached a problem, thought it through, and reached a decision that worked well for you? What were the thinking steps you took to produce those satisfactory results?
11. Have you ever jumped too quickly to a conclusion? Why? Have you ever been "absolutely certain" and then discovered you were wrong? What had you overlooked in your thinking?
12. If, as Tennyson says, "I am a part of all that I have met," what are the main events, persons, and places that have formed you? How have they formed your mind?
13. What is thinking? We have called it a mystery. Before we go further into this book, take some time to reflect upon that mystery and attempt to form some theories yourself. Ask yourself some questions that you would like to think further about as you think through this book.

3

Sensing/Listening

There is nothing in the mind unless it is first in the senses.
—AQUINAS

SENSUAL BEGINNINGS

If we were blindfolded, taken to a place, and the blindfold removed for only a second, we would get a flash of visual stimulation. If we were standing where we had never been before, perhaps in a mosque, the one-second glance would leave us with colors, mosaics, and geometric designs all blurring together; however, if we were in a city library, we would recognize and understand what we saw. In both cases visual rivers would flow into our eyes, but we would understand one because we had "the language of the library" already in our mind: our language had prestructured our perception and allowed us to understand and to process the sensual stream of books and desks.

With language already in our mind, it is possible to close our eyes and, disconnected from the outside world, do "pure thinking," but that kind of isolated thinking is rare. Most of our thinking is *sensory interactive*; after all, our brain is enfleshed in our senses. This sensing/thinking connection is so closely interrelated that our thinking often begins in our senses, progresses through additional sensory input, and shapes itself to our sensing habits; conversely, thinking can shape the way we sense.

The statement, "There is nothing in the mind unless it is first in the senses," says, in stark simplicity, that our brain would be empty without our senses. Sensing is the main source of the raw data for subsequent thinking: if we sense better, we can think better.

Whereas sensing precedes thinking for infants, sensing for adults is concurrent with thinking: as adults we continually return to our senses to

refresh the data, to seek new data, to fortify our thinking with tangible examples, and to validate the structures of our thinking. Our sensing and thinking are interwoven: even now as we read (eyes) this book, as we listen in class (ears), or as we write (eyes, touch) we are sensing; conversely, when we bungee jump, prepare a dinner, or install brakes on a car, we are thinking.

Sharpening our perceptions is crucial to deliver better data to our brains. We need the observations accurate. We need the facts right. We need solid sensory awareness to ground our thinking. We need to perceive beyond appearances and behind false faces.

In this chapter we examine how our senses both enlighten and deceive our mind, we learn how we can sharpen our vital sensing/thinking connection, and especially, we will stress how we can strengthen our two most important senses for thinking—seeing and hearing.

THE POWER OF OUR SENSES

Our senses act as our lenses, amplifiers, particle detectors, and pressure and heat gauges. These sensors are acutely sensitive: our hearing reacts to a sound vibrating at a frequency as high as 20,000 cycles/second and to a multitude of timbres that allow us to recognize different human voices. Our sight can detect a candle flame on a dark, clear night 20 miles away or discern a single color (mauve or teal) out of millions of hues. Our sense of smell can detect a single molecule of bacon or coffee out of five billion molecules. Our senses feed our brain much as food feeds our body; without their input, our brain would be almost empty.

Is our brain a blank slate at birth, as John Locke says, or is it alive with innate ideas? There are strong thinkers on both sides of this issue: John Locke agrees with Aristotle and calls our mind a *tabula rasa* (blank slate) that our senses and experience write upon. But other philosophers (Plato), psychologists (Jung), and linguists (Chomsky) disagree at least partially with this concept. They say we have innate (inborn) ideas or structures in our mind. What do you think? List your reasons supporting both sides in the Thinking Activity on page 43.

THE DECEPTION OF OUR SENSES

Throughout our life our senses have enriched our brain, and currently our senses link with our brain as we think. Powerful though they are, our senses do not always deliver accurate data to our brain: our senses do not operate effectively when we are sick, drowsy, or tired; and sometimes, although our senses deliver accurately, the world is not always what it seems on the sensual

THINKING ACTIVITY 3.1
Ideas: Innate or Learned?

Ideas Are Inborn	Senses Fill Our Mind

As you've listed reasons, you may have come to a decision on one side or another. If you have not yet decided, please weigh those reasons and check one of the boxes below. But as you check that box, please be very *aware* of what is going on in your mind. We will discuss your awareness shortly.

- ❑ We are born with knowledge.
- ❑ We acquire knowledge through our senses.
- ❑ We are born with knowledge; then we acquire more.

How did you arrive at your conclusion? Although it may be difficult because we are often not aware of our thinking *while* we think, try to describe the thinking processes you went through to arrive at your decision:

Whatever you discovered while you checked the box and wrote about your decision-making process, you sensed and thought together; you interwove sight and touch with your thinking as you read and wrote.

surface. Our sensual perceptions (using sight as an example) can deceive our brain in three major ways: limited biologically, we see the superficial; corralled by custom, we see the habitual; and blinded by language, we see the general.

Scientists and philosophers have alerted us to the superficiality of our senses. Copernicus stated that the sun did not "set," and Descartes pointed out the "bent" oar in the water. Subsequently, science has shown us the narrow range of our sight from red to violet; all the "colors" from infrared in one direction and ultraviolet in the other through the vast electromagnetic spectrum are invisible to our eyes, as are things very small and very far away. This superficial perception of our senses is weakened further by certain life forms which attempt to deceive, such as the chameleon, the venus fly trap, and, yes, even humans: "That one could smile and smile and smile and be a villain" (Shakespeare, *Hamlet*).

Likewise, custom in the form of habits, interests, and biases focuses and thus limits our perceptions. A fashion designer, walking into a room, sees that room differently from a carpenter, an antique collector, a gymnast, or a party animal (only the plasterer might seriously study the ceiling). In the next chapter we will study how language also puts reins upon our senses.

THINKING ACTIVITY 3.2

Our Personal Sense Deceptions

Let's think about how our senses can deceive us. What things appear safe but are dangerous, soft but are hard, fragrant but are poisonous, beautiful but are rotten, and true but are false? Can we list how people or things can deceive our senses and what the reality is? Can we be particularly aware of our own biases and strong interests that block, focus, and distort our sense impressions?

Deceptions	Corrections
Vanilla extract smells edible.	Tastes terrible!

SHARPENING OUR SENSES

When we realize that our senses are fallible, then we can begin to adjust to surface appearance, to general language, and to personal distortions. Seeing should not always be believing. The spearfishing Chippewa Indians of Wisconsin (who don't know Descartes's bent oar) have learned to adjust: they plunge their spear *above* the point where they see the fish, or they will go hungry.

We can adjust not just to water but to the entire surface of the earth by turning up the power of our senses: our eyes now pierce the surface through the electronic microscope, ultrasound, magnetic resonance, and positron emission; our ears amplify apparent silence through the microphone, "listen" to the shifting earth through seismographs, and "hear" the echo of the big bang through radar telescopes. Our nostrils "smell" hidden particles through smoke detectors and Geiger counters; and our touch "feels" more delicately through the barometer/thermometer. These instruments allow us to perceive beyond the range of our senses to see the molecules and microbes moving. We can then struggle to synthesize the clash between appearance and reality: our mind can reason, accept the validity of these observations, and know that invisible species crawl over our skin and that vast spaces exist in the floor upon which we step.

If we try, we can sometimes return to the sensual newness of a child: a five-year-old boy in a mechanic's shop identified his friend Brad's car. His dad glanced at the car and said, "No, that's too rusty." The boy replied, "But it smells like Brad's car." The father asked the mechanic—it was Brad's car. Like this boy, we can extend our senses *by willing it and by trying it.* Can we make a commitment now to see more, to sense more? If we start a program that tries, a few times a day, to absorb more of the sensual information around us, we can hone our perceptions to a piercing power of accuracy and newness; by the end of this course we will be perceiving at a higher level. This sharper perception will lead to sharper thinking as we place more specific, concrete, accurate data in our mind; and when our thinking is interacting with our environment, the results will more closely reflect the external reality.

In Chapter 1 we made three lists in progressively greater detail. By such methods we can learn to push our senses to see the details, to notice the rainbow colors of the snowflakes (often we just see white), to hear the wind through the grass (it's different from the wind through the trees), to smell the fragrance unique to each rose, even those coming from the same rosebush (a rose is *not* just a rose just a rose). As we struggle to sense more closely, we might discover the startling fact that no two things are alike; even mass-produced items, like beer cans, pencils, bolts, and coins, have differences easily distinguishable by our sight. We need to break the habit of seeing things in the same general way, largely because we think we know what it looks like. One way to break through this habitual pattern is to look at things in extremely small detail and then, when trying to say what we see, to express

2. *Read the body* while people are speaking. Watch their faces, the tightness or relaxation around their lips and their eyes; watch their hands. Is any nervous energy playing through their fingers? A top executive in an advertising firm was a man of forced smiles and memorized names. As he smiled and talked to clients he did not like, his left fist clenched and unclenched. An alert client reading the nonverbal message would know how to deal with him.

Since the work of Edward Sapir in the 1930s, the literature about nonverbal communication has been growing. As a note of caution, body signals can be ambiguous; there is always the possibility that we are "reading" wrongly. With this caution in mind, reading the body can help us stay focused and listen more fully to the speaker.

3. Use your *memory.* Recall earlier meetings and conversations with the speakers and how those ideas fit with their present words.

4. *Understand* their needs, values, beliefs, and goals. In the old adage—step in their shoes—empathize.

5. *Organize* their thoughts as they speak. Often speakers do not deliver perfectly patterned prose. Try to group their words into main points.

6. *Paraphrase* their words back to them: "In other words, you would like to . . . ," and check their response.

7. Ask *questions.* If the speaking situation permits it, asking questions directs the speaker toward topics of interest to us; questions also bring the speaker alive to new ideas.

8. *Summarize* the other's ideas. This helps both parties focus on the nucleus: on the thoughts to be remembered, on the actions to be taken. Clarity will result.

Listening can be as easy as MNOPQRST: Memory, Needs, Organize, Paraphrase, Question, Read Body, Summarize, Tone.

SUMMARY

We have seen our powerful senses both nourishing and deceiving our minds. We have seen our acute senses empowered by the instruments of science, and we have been alerted to the appearance of reality that comes with some of our sensations. Further, we have glanced at the deliberate deception of nature and human beings exemplified in an actor or a con artist. Shakespeare alerts us "that there is no art known to read the mind's construction in the face." We have seen how we can sharpen these vital sensing/thinking connections by looking more closely at the unique world around us. Finally, we have seen how we can focus our powerful mind into an effective listening posture. The above ideas will help us to keep our thinking refreshed and sharpened through interaction with our sensing, thus keeping us grounded in a more solid reality as we absorb and seek new data.

SENSING/THINKING CHALLENGES

1. Do you accept your reason when it is contrary to "common sense"? For instance, the earth is closer to the sun in the winter than it is in the summer. Seek the reason for this phenomenon and then be aware of how you struggle with the apparent conflict.

2. Galileo convinced the world that Copernicus was right about the orbiting spheres when he pointed a telescope at Jupiter and watched the moons go around. Is seeing always believing?

3. If you want to write some descriptive papers or try to paint with words, this chapter can help you. Try the particular sense-sharpening activities in this chapter; then *see* on a very small scale; then search for new words, especially analogies, as you attempt to describe what you see or hear. Practice on A through F below.

   A. A one-inch square area of the palm of your hand.

   B. A feature (a small part) of someone's face. (Chaucer describes the Miller with a wart on the edge of his nose with three red sow bristles growing from it.) You do not need a grotesque feature, but you do need Chaucer's minute level of detail.

   C. A leaf of some plant.

   D. A petal of a flower.

   E. The shine, color, and reflection in a drop of water.

   F. Any small part of anything you wish.

4. Try focusing one sense, and then shifting to another and focusing sharply. What do you experience?

5. William Wordsworth did not think we were born empty: "We come trailing clouds of glory from behind." What do you think was already in your mind at birth?

6. A quick test of your small-group listening skills: If you listen intently, receptively, you will notice the speaker begin to look at you longer and more often.

7. Do words blind our senses? How might the words "mountain" or "forest" stop us from seeing their uniqueness?

(Continued)

SENSING/THINKING CHALLENGES (continued)

8. Schedule a few times during the day to *practice* sensing. These times can overlap other things you are doing, such as driving or eating or washing dishes. Try to focus and to become acutely aware of details.

Times I'll Sense More Sharply

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat./Sun.
Time						
Time						
Time						
Time						

9. Listening is so simple that it is hard. Do you agree with that statement? What do you find particularly easy or difficult about listening?

10. Buddhists engage in a practice of "bare attention" to sharpen their perceiving. This practice is described as "observing things as they are, without laying our projections and expectations onto what is happening; cultivating instead a choiceless and non-interfering awareness" (Goldstein, 1992, p. 20). Whatever you are doing now and throughout the day, give it your bare attention. Try simply to notice things without judging, without evaluating; just remain detached and try to notice things as they are. Reflect, write about, or discuss your experience.

11. Did you ever see a penny? Which of the following features are on the Lincoln cent? Check those that you believe are on the penny, and then check a penny. How perceptive have you been?

    A. Lincoln is facing forward

    B. When looking at a penny, Lincoln is facing right

    C. Lincoln is facing left

    D. "Give me liberty or give me death"

    E. "In God We Trust"

    F. "One Penny"

    G. "One Cent"

(continued)

SENSING/THINKING CHALLENGES (continued)

    H. Picture of the White House

    I. "E Pluribus Unum"

    J. "Liberty"

    K. The date of the penny

    L. "United States of America"

    M. Picture of the American Flag

12. Here is a descriptive paper written by a student. How does this paper activate our senses?

Mom and I used to watch the storms that would later resemble life. It was in the springtime of my life when we watched the rain shimmer with moonlight as it fell so delicately to the earth.

When I was an adolescent we watched the clouds billow in overlapping layers, covering the entire horizon like a crimson blanket of fog. The lightning danced in a blinding fury to the beat of the rumbling thunder. As we watched, rebelliousness took the stage for my summer years. The wind cried as if it was afraid of the dark. The show gained intensity as the actors prepared for the finale. Then I saw the explosion, and lights like glass shattered everywhere. And the sky cleared and looked again for a new beginning.

I have since matured and mellowed into the autumn of my life. Mom is gone, and now I have taken her place, with my own children. We sit and watch the storms.