Thinking (2008)
3
Kirby and Goudpeaster

Sensing

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 reveal a jumble of colors, mosaics, and geometric designs; 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 the library because we already had the language in our mind. That language would have prestructured our perceptions and would have 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. If this view is correct, then sensing would be the main source of raw data for our 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 this book, as we listen in class, and as we write, we are sensing (with our eyes, ears, hands); conversely, when we bungee-jump, prepare a dinner, or install brakes on a car, we are thinking.

Sharpening our perceptions is crucial for delivering better data to our brains. We need the accurate observations. 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 per 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 the 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, or inborn, ideas or structures in our mind. What do you think?

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

THINKING ACTIVITY 3.1
Ideas: Innate or Learned?

Where do our ideas come from? List reasons supporting both those who say we are born with ideas and those who say we learn them through our senses.

Ideas Are Inborn	Our Senses Fill the Mind

As you listed reasons, you may have come to a decision in favor of one side or another. If you have not yet decided, weigh those reasons now and check one of the boxes below. As you check the box, 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 the process may be difficult to describe 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.

...curately, the world is not always what it seems on the sensual surface. Our sen...al perceptions (using sight as an example) can deceive our brain in three ma... ways: limited biologically, we see the superficial; parallel [illegible]

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. The superficial perception of our senses is weakened further by certain life forms that attempt to deceive, such as the chameleon, the Venus flytrap, 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, can focus 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 following chapter we will study how language also puts reins upon our senses.

THINKING ACTIVITY 3.2
Our Personal Sense Deceptions

Think about how your senses can deceive you. What things appear safe but are dangerous, soft but are hard, fragrant but are poisonous, beautiful but are rotten, true but are false? In the chart list some people or things that can deceive your senses and note what the reality is. Also be aware of your own biases and strong interests that might block, focus, and distort your sense impressions.

Deceptions	Corrections
Vanilla extract smells edible.	Tastes terrible!

SHARPENING OUR SENSES

Perhaps my originality boils down to being a hypersensitive receptor.

—CLAUDE MONET, IMPRESSIONIST PAINTER

When we realize that our senses are fallible, then we can begin to adjust to surface appearance and personal distortions. Seeing should not always be believing. The spear-fishing Chippewa Indians of Wisconsin (who don't know Descartes's

bent oar) have learned to adjust: they plunge their spear *above* the point whe they see the fish. If they didn't, they would go hungry.

We can adjust not just to water but to the entire surface of the earth by turr ing up the power of our senses. Our eyes now pierce the surface through the elec tronic microscope, ultrasound, magnetic resonance, and positron emission; ou ears amplify apparent silence through the microphone, listen to the shifting eart through seismographs, and hear the echo of the big bang through radar tele scopes. Our nostrils smell hidden particles through smoke detectors and Geige counters; and our sense of touch feels more precisely through the barometer an thermometer. These instruments allow us to perceive beyond the range of ou senses to see the molecules and microbes moving. We can then struggle to syn thesize the clash between appearance and reality. Our mind can reason, accep the validity of these observations, and know, for example, that invisible specie 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. We too can extend our senses. By willing and by trying we can see more and sense more. If we start a program that tries, a few times a day, to absorb more intensely the sensual in formation around us, we can hone our perceptions to a piercing power of accu racy and newness; by the end of this course we will be perceiving at a higher level. This sharper perception can 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 of observations in progressively greater de tail. By such methods we can learn to push our senses to see fine details, to no tice 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 they look like. One way to break through this habitual pattern is to look at things in extremely small detail and then try to express what we see in new words. Avoid clichés: they are a sign that we are us ing other people's words and therefore are not describing what *we* are seeing.

When we actively use our senses, even as adults, we can be shaping our brain. Cab drivers who learned the complicated streets of London had a change in the memory area of the hippocampus. (Sheppard, 2000). And neuroscientist John Flanagan of Harvard found that repeatedly touching the fingers of primates caused a corresponding area of the brain to grow larger. Conversely, when the whiskers of mice were trimmed, that sensory area of the brain shrunk (Vogel, 2000). So once again the adage applies–use it or lose it. By use we sharpen our senses.

THINKING ACTIVITY 3.3
Seeing Anew

1. Pick any two things that you think are identical; if you wish, reach into your pocket or purse and take two coins of the same denomination and begin to notice the differences. Turn and twist them and watch the light reflect off their individual surfaces. Strike them and hear their unique sounds.
2. Focus your senses on those two things as if you were alone in a woods at night and you heard breaking branches on the forest floor.
3. Look so closely, so minutely at tiny sections of the objects that you have no easy words for such small areas of focus. Then try to break the language barrier by describing those differences specifically and concretely.
4. Avoid clichés. Find new ways to describe what you are seeing; use analogies to get your meaning across.

If you practice these steps, your thinking will take root in specific facts and your writing and speaking will glisten with newness.

'OWERFUL LISTENING

fter seeing, hearing may be our most vital sense. Hearing sends rivers of sound ito our ears, from the music of falling waters to the cry of a newborn baby. When e use our hearing to listen to words, listening becomes interactive with our inking and crucial in communicating.

he Paradox of Powerful Listening

hen we were small children our listening was natural and effortless, like the rth receiving rain. That's partly why we were able to learn our language so ickly. Our adult brains can absorb thoughts several times faster than they are oken: speech runs about 125 words per minute, yet if this rate were doubled · even tripled through a sped-up audiotape) we could still understand the rds. Listening is so simple that, paradoxically, it is hard. Because the rate of

speaking is so slow, we can easily allow our mind to roam elsewhere. And now that we've grown older, our listening is drowned by the buzz of our thinking, and is smothered by our poor habits. Because listening is apparently simple, we allow our mind to roam elsewhere while someone is talking. The challenge then becomes, how do we rein in our brain to follow the speaker? How do we not get bored and allow our attention to wander?

How to Listen

In order to listen well, we must want to listen. Here are a few reasons to help motivate us to listen well: (1) we will know more, (2) our decisions will be based on firmer data, (3) we will understand the speaker's values and positions better, (4) our interpersonal skills will be higher, (5) our responses will carry greater effectiveness, (6) we can recall how good we felt when anyone really listened to us, and give that same courtesy to the speaker, (7) the speaker will talk better because we actually partially control the speaker by how well we listen and ask questions, and (8) we will learn more. Can you think of other reasons to listen well?

Even if we think the speaker is boring, if our attitude is receptive we can learn from anyone. Ultimately we are the ones who profit. We are the ones who grow wiser. Consider one final example of the power of listening. A married graduate student reported that he was on a path toward a divorce, so in his busy schedule he set aside twenty minutes a week on Friday nights to listen, really listen, to his wife. The first night, without even knowing why, his wife said, "Gee, hon, we had fun tonight." By continuing to listen, the student said he began to find out things about his kids and his wife that he never knew. He said listening, simply listening, rescued and enriched their relationship.

Once we have set our will to listen, we may need to adjust our environment. MTV, screaming children, trucks winding through their gears, and blasting bands do not provide a good listening environment. If we want to listen, we can move to a place of acceptable noise level and privacy, adjust our chairs so we are close enough, turn our back on windows, televisions, or other distractions, and face the speaker. The environment is ours to control.

Then we need to place our body into a listening posture. First, we square up, sitting or standing directly across from the other person (effective, forthright communication is not assisted by angles—acute, oblique, or otherwise). Second, we relax and open our body to the ideas of the other (folded arms and locked knees are often reflective of our mental locks). Third, we lean slightly toward the speaker (pulling back is a reaction associated with horror, fright, fear, bad breath, or rejection of the other's ideas). Finally and most importantly, we look the other in the eyes without staring, and we appropriately maintain that vital connection while we are listening (eye contact connects us in some ways more strongly than the telephone wire connects our phones). Squared, relaxed, leaning, and looking, our body prepares us for listening.

With our will set, the environment adjusted, and our body posed, we have a better chance of keeping our mind focused. Here are some ways to keep your mind on the speaker. As we present these ideas, think about which ones will work effectively for you:

1. *Listen to the tone of the speaker's words,* to the feelings behind the thoughts. Tone can easily color or contradict the content of the words, but it is rare that content can outweigh tone. For example, if you greet your boyfriend and ask him how he is, and in a small voice he sighs, "Fine," you can believe the tone of his voice and ignore his words. He isn't fine. Something is wrong, and his tone shows it. Because of the connection between tone and truth, voice stress indicators have been developed in an attempt to measure the truthfulness of people's statements; further, magnetic resonance imaging has shown that areas of the brain respond specifically to the tone of the human voice as opposed to sounds made from other sources (Belin, 2000).

2. *Read the speaker's body.* Watch the face, the tightness or relaxation around the lips and the eyes; watch the hands. Is any nervous energy playing through the speaker's 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 on nonverbal communication has been growing. Body signals, however, 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 speaker and how those ideas fit with the speaker's present words.

4. *Understand the speaker's needs, values, beliefs, and goals.* In the old adage—step into the speaker's shoes and empathize.

5. *Organize what you hear.* Often speakers do not convey their thoughts in perfect prose. Try to group their words into main points.

6. *Paraphrase the speaker's words out loud.* Give feedback by saying something like, "So what you are saying is that 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 you. Also, questions can clarify ambiguities and may spark 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.

THINKING ACTIVITY 3.4
Developing an Action Plan

Thinking is intangible, and while you might get some great ideas as you read this book and listen to your teacher and participate in class, unless you *act* on your thinking, your ideas will probably remain intangible. To bring thinking into your life more, you are highly encouraged to develop a *specific, practical* plan of action for each chapter.

To try to listen better, you can make a list of specific steps describing *what* you will do, *when* you will do it, and *how* you will check your progress. A sample action plan might look like this:

what: I want to listen to my friend with more attention. I will try to maintain eye contact and not to interrupt while my friend is talking. I will ask appropriate questions and paraphrase my friend's responses to focus my listening.

when: I will listen for five minutes each day when I return home from school or work.

check: On Fridays I will count the number of days that I was successful, and reflect on the result my listening has had.

Now develop your own action plan in the spaces below. Please pick an idea from class or the book that you would like to try to bring into your life. Remember: be *specific* in describing what you are going to do; when you will do it (days and times and places); and how and when you will check upon your progress.

what:

_____
_____
_____
_____
_____

when:

_____
_____
_____

check:

_____
_____

SUMMARY

We have seen how our powerful senses both nourish and deceive our minds. We have seen that our acute senses can be expanded by the instruments of science, and we have been alerted to the *appearance* of reality of some of our sensations. Furthermore, we have glanced at the deliberate deceptions that occur in nature and human beings. 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 for effective listening. By keeping our thinking refreshed and sharpened through interaction with our sensing, we will be grounded in a more solid reality as we absorb and seek new data.

SENSING AND THINKING CHALLENGES

1. Do you accept information 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 think about how your mind struggles with the apparent conflict between your senses and the facts.
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 it. Is seeing always believing? Can you think of any exceptions?
3. If you are writing a descriptive paper or trying to paint with words, this chapter can help you. Perform Thinking Activity 3.3 several times; that is, try to see on a very small scale, and then search for new words, especially analogies, to describe what you see. Practice this activity on any of the following:
   a. A one-inch square area of the palm of your hand.
   b. A feature (a small part) of someone's face. (In *Canterbury Tales* Chaucer describes a wart on the edge of the miller's nose as having three red sow bristles growing from it. You do not need to choose a grotesque feature, but you should strive for 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.

   Try focusing one sense, such as smell or hearing, and then shifting to another and focusing sharply. What do you experience?

5. William Wordsworth did not think we were born empty: "We come tra ing clouds of glory." What do you think was already in your mind at birt
6. As a quick test of the effect of your listening, the next time you are in a sm: group, listen intently and receptively to the speaker: Notice if the speak begins to look at you longer and more often than others in the group.
7. Do words blind our senses? How might the word *mountain* or *forest* pr vent us from seeing the uniqueness of that mountain or that forest, and tl uniqueness of the rocks and trees within each.
8. Schedule a few times during the day to *practice* sensing. These times ca overlap other things you are doing, such as driving or eating or washir dishes. Focus your mind to become acutely aware of details.
9. Listening is so simple that it is hard. Do you agree with that statemen What do you find particularly easy or difficult about listening?
10. Buddhists engage in a practice of "bare attention" to sharpen their percei ing. This practice is described as "observing things as they are, without layin our projections and expectations onto what is happening; cultivating instea a choiceless and non-interfering awareness" (Goldstein, 1976, p. 20). Whai ever you are doing now and throughout the day, give it your bare attentior Try simply to notice things without labeling or evaluating them; remain de tached. Afterwards, reflect, write about, or discuss your experience.
11. Have you ever really seen a penny? Which of the following features are o the Lincoln cent? Circle the items that you believe are on the penny, an then inspect a penny. How perceptive were you?
    a. Lincoln facing forward
    b. Lincoln facing to the right
    c. Lincoln facing left
    d. "Give me liberty or give me death"
    e. "In God We Trust"
    f. "One Penny"
    g. "One Cent"
    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. Evaluate the following claim: "a healthy human brain is hard-wired to love cars. They fascinate our senses. The handsome taper of the coach work, an agreeable symmetry between the headlights and grille mouth, a rich scent from the upholstery and a passing [illegible] with those who avow total ignorance and indifference to automobiles" (Robinson, 2000, p.1).
13. Continually more and more genes are being identified on the human genome. Recently a gene has been found that seems to guide the way our sensory memories are recorded (Vogel, 2000). Once again this raises the old question of nature and nurture. Will your senses just record what they record because they are genetically determined. What part do you have to play in what does get recorded?
14. Here is a descriptive paper written by a student. What words, figures of speech, and what thought patterns does this writer use to 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.
15. The next chapter will discuss memory, but as a warm-up now, you might think about how your senses affect what you remember. The novelist Proust describes how a certain smell brought back many early memories. Does this work for you? How might you use your senses in creating stronger memories that will be easier to recall?