

PAYING ATTENTION

- On Learning to See 35
On Looking and Looking Again 41
On Encountering Difficulty 47
Curiosity at Work: David Simon Pays
Attention to the Disenfranchised 52
-

Is it possible to write without paying attention? At first the question seems absurd: How could words move from your brain to your keyboard if you weren't paying attention? Writing doesn't just happen. And yet people text while walking and even while driving, which shows that writing happens all the time without one's full attention. And of course, students can now write papers while also surfing the Net and snapchatting their friends.

Funnily enough, a common response to the mistakes that happen as a result of being distracted is the command to "pay attention." You step off the curb into oncoming traffic and are pulled back to safety by a friend just before you would have been hit. "Pay attention!" You're sitting in class daydreaming when your teacher calls on you. "Pay attention!" You're in a crowd and walk directly into a stranger. "Pay attention!" In each case, the command arrives too late: it's less helpful guidance than it is a rebuke.

We want you to think of writing not as a way of proving you *were* paying attention but as a way of paying attention. To this end, we've populated this section with essays that explore how writing can be used to train the mind to focus and the eye to see. We also explore using your writing to reflect on how you think and on how you imagine the thoughts of others. When you use writing in these ways, you are practicing being engaged with and interested in the world.

On Learning to See

When Betty Edwards started teaching high school art classes in the late 1960s, she was baffled as she watched her students having trouble drawing simple, familiar objects. If they could see that the orange was *in front of* the green bottle, why did they draw the two objects *next to* each other? Why was it that the ability of her students to express themselves verbally and to reason mathematically had improved from kindergarten to high school, but their ability to draw hadn't changed much since the third grade? And when her students eventually figured out how to produce drawings that were more accurate, why did the improvement seem to take place all at once rather than gradually?

Around the time that Edwards was pondering why students who learned easily in academic classes had so much difficulty in art class, neuroscientists Roger W. Sperry and Michael Gazzaniga began publishing reports that suggested that the two sides of the brain did different kinds of mental work. The left hemisphere, where language was typically housed, was more systematic and linear. The right hemisphere was more visual, spatial, and synthetic. Once Sperry and Gazzaniga's research got picked up by the popular press, it was reduced to a simple binary opposition: the right brain is creative and the left brain is analytical.

Edwards used this research to make sense of the difficulty her students had seeing what was right in front of them as well as the breakthroughs they experienced when they suddenly began to see differently. In Edwards's view, students were rewarded in their academic classes for being verbal and analytical thinkers; they were required, one could say, to be left-brained. But to draw well, they needed access to visual, perceptual, and synthetic thought; they needed to find a way to see with the right brain. To trigger this apparent hemispheric shift for her students, Edwards developed exercises that quieted the verbal, analytical, and systematizing thinking rewarded elsewhere in the curriculum, so that visual, creative, and associative thinking could come to the fore. As she developed these exercises, Edwards was beginning to understand that, in order to learn how to draw, her students had to stop naming what they were trying to draw and start seeing what was in front

of them in a new way—as related lines and connected spaces without names. If they stopped saying “hand,” for example, they could learn to stop drawing the symbol for a hand (five stick fingers at the end of a stick arm) and could instead begin to see the intricate pattern that is made by a particular hand resting on the edge of a particular keyboard.

Edwards’s explanation of the brain’s two dominant operational modes makes a kind of immediate, intuitive sense; indeed, it makes it sound like all you really have to do to draw is to learn how to toggle the switch between your left brain and right brain. The truth, though, is that both the brain and learning how to draw are more complicated than the model of a sharp division between left-brain and right-brain function suggests. We now know from neuroscience that it is more accurate to say that activity in the right hemisphere is *correlated* with creative and divergent thinking and that activity in the left hemisphere is *correlated* with analytic and convergent thinking. While the right part of your brain contributes a good deal to creative potential, your whole brain has to work in concert for you to engage in creative work.

In *A Whole New Mind*, Daniel Pink describes attending a drawing class based on the methods developed by Edwards and learning just how difficult it is to get the whole brain to play along with this new way of seeing. His first attempt at drawing a self-portrait while looking at his face in a mirror was simply terrible. The eyes, nose, and lips were clumsy cartoon versions of these basic components of the human face. Pink’s placement of these features in his drawing was equally cartoonish and bore little relation to where the eyes, nose, and mouth are found on a real human face. Pink couldn’t draw what was right in front of him, the most familiar, recognizable part of himself, because his preconceptions about faces—which his teacher called “remembered symbols from childhood”—blinded him to the actual contours of the face looking back at him in the mirror. To draw better, Pink needed to stop naming, analyzing, and judging what he saw and practice seeing and sketching lines, patterns, relationships, and relationships between relationships. He had to practice finding increments of simplicity in complex patterns of lines and spaces.

We believe that the kind of seeing Edwards aims to trigger through her teaching practice is a specific instance of the kind of seeing that lies at the core of creative thinking. Indeed, Edwards herself says that “this

ability to see things differently has many uses in life aside from drawing—not the least of which is creative problem solving.” So, although it surely seems contradictory, we adapted a couple of Edwards’s exercises meant to restrain the dominance of language to serve our own interest in having you think differently about the role of language in the creative process.

Practice Session One

Writing

Draw a self-portrait. Start by finding a spot with a mirror and plenty of light where you can work comfortably for at least 30 minutes. Using a pencil and a blank sheet of paper, draw your face. Do your best, and don’t give up before you’ve got all your facial features looking back at you. The drawing may look awful, and that’s okay.

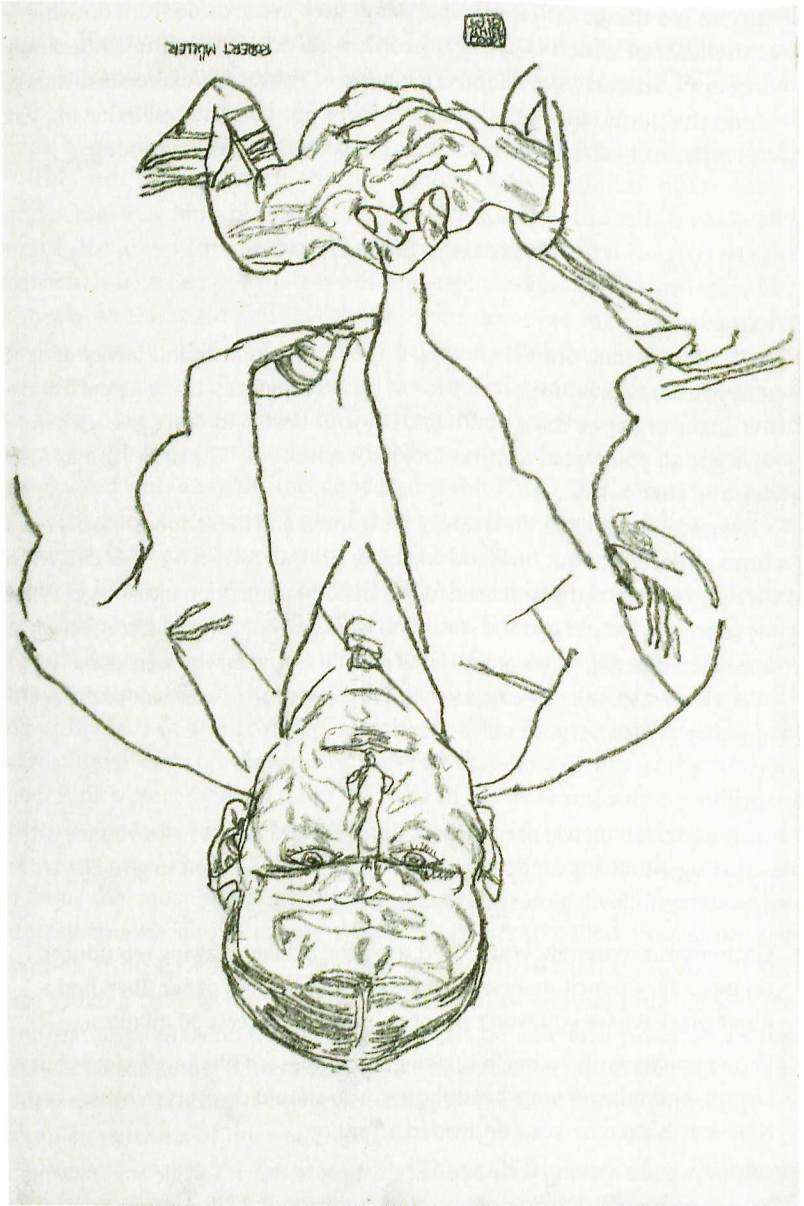
Next, look carefully at the shape of the features and the relationships between features and think about how and why your portrait turned out as it did. What went right? Where did you successfully transform perception into image? What went wrong? What did you *not see* as you were drawing? How did you feel while you were completing this exercise? How did you feel when you were done? Why?

As a final step, take at least 15 minutes to write an assessment of the act of seeing that generated your self-portrait.

Seeing

For this exercise, you will use a trick of Betty Edwards’s that helps you see without naming—drawing an upside-down image. We’d like you to give Edwards’s exercise a try, following these instructions.

1. Gather your materials: you’ll need the Egon Schiele drawing reproduced on page 38, a pencil, an eraser, and a sheet of unlined paper. Then find a quiet place where you won’t be interrupted for at least 30 minutes.
2. When you’re ready to begin drawing, turn your cell phone off, close your laptop, and take off your headphones. You should do everything you can to give this exercise your undivided attention.
3. While you are making your copy of the upside-down Schiele line drawing, try not to figure out what you are looking at (and don’t turn the drawing right-side up until after you’re finished). You’ll do a better job if you



Robert Muller by Egon Schiele

aren't trying to name what you are drawing. Focus instead on the lines in the drawing, the relationships between those lines, and the relationships between the lines and the paper's edge. Edwards tells her students: "When you come to parts that seem to force their names on you—the H-A-N-D-S and the F-A-C-E—try to focus on these parts just as shapes. You might even cover up with one hand or finger all but the specific line you are drawing and then uncover each adjacent line."

Writing

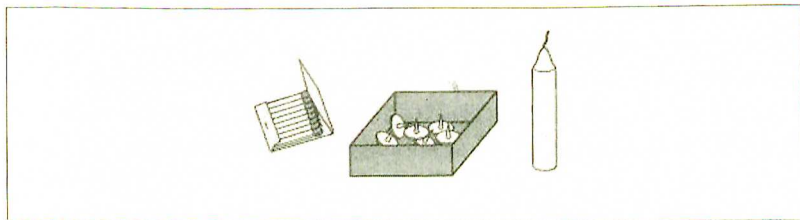
When you are done making your copy, we'd like you to reflect upon the *experience* of drawing an upside-down image. Begin by considering the following questions: Was it difficult to stop naming and to start seeing relationships? Are there parts of your copy that are more successful than others? What happened to your sense of time while you were working on your copy?

Then, spend at least 30 minutes writing about what happened *in your mind* while you worked on your line drawing. There's no right answer here. Think of your writing as a sketch of your mind at work. Learning to see begins with learning how *you* see.

Practice Session Two

Reflecting

In the 1940s, a psychologist named Karl Duncker developed a test of problem solving that's popularly known as "the candle problem." The challenge posed to participants is to figure out how to attach a lit candle to a wall without it dripping on the floor below. To complete the challenge, participants can use only the objects pictured here:



Karl Duncker Candle Problem. On Problem Solving, Psychological Monographs, 58, American Psychological Association. Panel A, na

Take as much time as you need to figure out how you would solve the candle problem, and then write down your solution.

Next, watch Daniel Pink's TED talk, "The Puzzle of Motivation." Pink begins talking about the candle problem and its solution at around the two-minute mark, but we want you to listen to the talk in its entirety. Take notes while you're watching, writing down anything Pink says that surprises you.

After you've listened to Pink's TED talk, we'd like you to spend 45 minutes writing a reflective piece that considers the role seeing played in your response to the candle problem. Did solving the candle problem require a new way of seeing, a new way of thinking, or both? What do you think the implications of the candle problem are for learning?

EXPLORE

Writing about seeing is often precipitated by the experience of learning to draw. John Berger has been drawing his entire life. Adam Gopnik earned a BA and MA in art history but didn't learn to draw until middle age. A classical pianist before changing careers, Peter Mendelsund is a self-taught artist who designs book covers for a living. Each of these writers explores the relationship between how we see the world and how we put the world of our experience into words.

Berger, John. *Bento's Sketchbook: How Does the Impulse to Draw Something Begin?* New York: Pantheon, 2011. Print.

Gopnick, Adam. "Life Studies: What I Learned When I Learned to Draw." *New Yorker*. 27 June 2011. Web.

Mendelsund, Peter. *What We See When We Read*. New York: Vintage, 2014. Print.

On Looking and Looking Again

“Pay attention!”

Walk the hallways of any elementary school, and it won't be long before you hear this exasperated command. Over time, all students learn that what their teachers mean when they say “pay attention” is “sit still and be quiet.” The teachers know, of course, that there's more to paying attention than being quiet, but what that “more” turns out to be is something that can't be ordered into existence by the voice of another. So students learn early on how to get their bodies to behave in class, but getting their minds to behave is another matter.

The paradox at the beginning of the process of paying attention seems irresolvable: How does mental focus emerge out of chaos, the attentive mind out of distraction? How does anyone ever learn the inner work of paying attention?

Our answer is: by practice.

But what kind of practice? How does one practice a state of mind?

The poet William Blake offers some guidance on how to think about this paradox in the opening stanza of his poem “Auguries of Innocence”:

To see a World in a Grain of Sand
And a Heaven in a Wild Flower
Hold Infinity in the palm of your hand
And Eternity in an hour

On a first reading, Blake's stanza seems to offer a straightforward proposition about how to trigger a state of deep attentiveness: if you want X (to see the world in a grain of sand), then do Y (hold infinity in the palm of your hand). But if this is what it takes to pay attention, attentiveness of the kind Blake describes seems an impossibility, for how is one supposed to go about grabbing hold of infinity or experiencing “eternity in an hour”?

Perhaps we've misread the stanza. Perhaps Blake is making a statement both about what paying attention involves and what it makes

possible: "To see a world in a grain of sand and heaven in a wild flower [is to] hold infinity in the palm of your hand and eternity in an hour." Read this way, Blake's verse is saying that, if you can learn to "see a world in a grain of sand" or "a heaven in a wild flower," you can gain access to realms beyond what you know and even beyond the limits of thought—you can reach the infinite and the eternal.

From Blake's poem we could conclude that the practice of writing poetry has trained Blake's mind to focus on the particular (a grain of sand, a wildflower) until it leads to something much bigger (a world, a heaven) and onward to realms beyond measure (infinity, eternity). More generally, we can say that Blake shows us that the attentive mind generates insights, connections, and beautiful objects and moves by inference, analogy, and metaphor.

Does this mean that, instead of commanding a distracted student to "pay attention" teachers should try saying, "sit still and be a poet"?

That command wouldn't work any better than the command to pay attention, of course: first, even the best poet can't be a poet on command; and second, poetry is only one possible result of paying attention.

Better by far, we think, to say, "Practice looking and looking again."

A teacher we greatly admire, Ann Berthoff, developed an exercise that we've adapted here to help you experience the kind of seeing Blake describes. To get her students to resee the natural world, Berthoff would bring to class all manner of organic objects—a starfish, the husk of a cactus, dried reeds, a pressed flower—and then have each student take one of the objects home to study for a week.

For our version of this exercise, you'll need to select your own organic object—anything from the natural world will do. You should choose something that you can hold in your hand and that you can put somewhere out of harm's way for a week.

We ask that, for seven straight days, you spend at least 10 minutes recording your *observations* of the object you've selected.

Here's an example of what a day's entry might look like, written by Erik on day five:

Clearly the plant is dehydrated and dying, and yet, besides my dismembering it of its limbs, it still has the same form

and design as it did when I first took it home. The colors of the leaves have noticeably changed, but nothing else has visibly changed as far as I can tell. Of course, the way I'm seeing this object has changed since the first day I laid my eyes upon it.

There are definitely patterns that are quite unmistakable in and on this plant. For instance, the mini-stems that connect the buds to the stem that connects back to the entire organism: there are seven of these mini-stems, and they are all about of equal length. That is interesting. If it is sunlight the buds seek, I would think that maybe one of the mini-branches would push itself considerably farther out so as to receive more energy for its own survival. But, naturally, these buds are probably not competing for energy but rather are working together for the survival and health of the entire plant.

I cannot help but draw a connection to a human body here. You can find multi facets and numerous parts and functions of parts within a single limb of a body. In fact, you can find it in one single human cell. . . . I'm reminded of a quote from Aldous Huxley [who was quoting from William Blake]: "If the doors of perception were cleansed, every thing would appear to man as it truly is, infinite." A person is not just a person with a name, a height and a weight, and a social status; each person is also composed of electricity, of a billion cells that perform who knows how many functions.

My plant here, at first glance, is just a little piece of a shrub. But if you really look at it, there is a lot going on here that makes this plant what it is. Can the physical world ever be described as infinite? Do we really actually know, in an empirical sense, of anything that is infinite? Why do we have a "word" describing something that we have never experienced? Is that evidence or a suggestion from our subconscious mind, our inner spirit, our unseen self, that there is such a thing as infinity? Is there infinity present in my little piece of shrub? I don't know, but I'm willing to bet that as

more powerful microscopes are developed, there will surely be more we will be able to “see” in the physical universe around us, and this will further lend credence to the idea that, yes, with a necessary perspective, it may be possible to hold infinity in the palm of your hand. You won’t know it unless you have eyes to see it, or take the time to meditate on it, and even then . . . infinity is a tough thing to swallow and ascribe to what we can perceive with our five senses. But it’s not impossible.

Focusing on the plant stem, Erik makes connections to the human body, to a quote he’s read in Aldous Huxley, and then back to the Blake poem we used in our writing prompt. Looking closely allows Erik to see beyond the plant back into his own mind. Thinking about how the plant is organized becomes, in this instance, a way to think about how all minds organize perceptions.

Practice Session

Writing

Choose an organic object from the natural world, something that you can hold in your hand and that you can keep out of harm’s way for a week. Then, over seven consecutive days, write for at least 10 minutes each day about what you see.

Describe how your object is put together.

What questions does your object pose?

What does it point to?

Where did it come from?

What is it a part of?

You are free to move your object, to alter it, or to interact with it in any way that furthers your effort to understand how it is put together. You can also read and do research if questions come to mind. Your goal is to see how your object is organized within itself and how it is implicitly connected with other natural objects.

Write every day.

Ponder what your observations and explorations tell you about the object.

Write even if you're stuck.

If you try to sketch your object, does that help you see aspects you would otherwise miss? What if you photograph it?

Write even if you think you've said all there is to say about your object.

There's only one rule: don't anthropomorphize your object. Don't give it a human name. Don't invent a dialogue between yourself and your object. We've found that this approach only serves to obliterate the object—it displaces the act of looking and looking again.

Reflecting

After you've completed your seven days of writing, reread what you've written with the following questions in mind: At the end of all your looking, how would you describe the organization of your organic object? Based on what you've written, how would you describe your own way of looking? What did you see right away? What did it take you a while to see? What kinds of questions did you ask automatically? What kinds of questions emerged late in the process?

Write an essay that reflects on what this exercise of looking and looking again has helped you to recognize about seeing in general and about paying attention in particular.

EXPLORE

Looking, learning, and rethinking can turn the ordinary into something extraordinary. Rachel Carson, Annie Dillard, and Michael Pollan each look at familiar objects or places until they become strange and surprising. Carson lingers by a sea cave that appears only at the year's lowest tide. Dillard looks for hidden treasures in the natural world: monarch pupae, flying squirrels, the streak of green light that bursts from the sun at the moment of sunset. And Pollan explores an orchard with 2,500 varieties of apple trees, including an ancient species from Kazakhstan that may be the origin of all apples.

Carson, Rachel. "The Marginal World." *The Edge of the Sea*. Boston: Houghton Mifflin, 1998. 1–7. Print.

(Available on Google Books via preview.)

Dillard, Annie. "Total Eclipse." *Teaching a Stone to Talk: Expeditions and Encounters*. New York: HarperCollins, 1982. 9–28. Print.

(Available on Google Books via preview.)

Pollan, Michael. "Breaking Ground: The Call of the Wild Apple." *New York Times*. 5 Nov. 1998. Web.

On Encountering Difficulty

In his essay "The Mind's Eye," the neurologist Oliver Sacks confronts the conundrum of free will: "To what extent are we—our experiences, our reactions—shaped, predetermined, by our brains, and to what extent do we shape our own brains?" He is led to this conundrum by consideration of a series of cases of individuals who were born with sight but then became blind. The point that Sacks wants to make in "The Mind's Eye" is deceptively simple: how one responds to becoming blind is idiosyncratic—that is, it is unique to the individual. Sacks did not always think this was the case. Initially, he assumed that responses to going blind were determined by the structure of the human brain and thus were essentially uniform.

Sacks begins his essay by describing an extreme example of what is thought to be the typical response to going blind, where the other senses gain heightened powers as the ability to see recedes. After John Hull, blind in one eye due to cataracts at seventeen, went completely blind at forty-eight, he steadily lost access not only to his visual memories but to what Sacks terms "the very idea of seeing." In this profound state of "deep blindness," Hull claimed that spatial references such as "here" and "there" lost meaning for him. At the same time, he became what he calls a "whole-body seer," someone whose other senses have roared to life to compensate for the loss of vision and who now experiences wholly new ways of engaging with the world.

After first writing about Hull in 1991, Sacks began to hear from others whose own experiences of becoming blind conflicted with this compensatory model of how senses covered for each other. For example, Zoltan Torey's response to going blind was the exact opposite of Hull's: instead of embracing "deep blindness" when he lost his sight in an accident at the age of twenty-one, Torey cultivated the powers of his "inner eye," self-consciously laboring to hold on to his ability to think with and manipulate visual images. What Torey has done since going blind is almost unthinkable: he learned to multiply four-figure numbers by visualizing the operations as if the calculation

were written on a blackboard; he taught himself to move and manipulate three-dimensional images in his mind, breaking them apart and recombining the pieces; he even single-handedly replaced the roof on his gabled home. What motivates Torey? A deep need to retain a sense of the visual.

Then there's Sabriye Tenberken, blind since twelve, who has traveled extensively in Tibet, often alone, advocating for the blind. She has cultivated a rich synesthetic inner world, one full of color and feeling, which allows her to use words to paint elaborate and fanciful descriptions of the outside world. While Torey visualizes highly detailed maps and diagrams of the real world, Tenberken delights in holding on to an inner vision that is poetic and playful.

Sacks started out looking for a neurological explanation of these varied responses to becoming blind—i.e., that whereas Hull's visual cortex had atrophied completely, Torey was able to "stave off an otherwise inevitable loss of neuronal function in the visual cortex" as a result of his mental gymnastics. But when Sacks turns his attention to people who can see, he quickly finds a similar range in the visual imagination of sighted individuals: some seeing people can hold images in their minds and manipulate them as Torey does; some, akin to Hull, cannot generate visual images or call them to mind; others can achieve the ability to visualize in great detail only through chemical enhancement.

Where does this leave us? For Sacks, the fact that both the blind and the seeing share a spectrum of possible ways to visualize the outer world illustrates the difference between brain and mind. The power to see has a physical, neurological basis located in the brain. What happens to those impulses once the brain processes them is determined not by the brain alone but by "the higher and more personal powers of the imagination, where there is a continual struggle for concepts and form and meaning, a calling upon all the powers of the self," which we would call *the mind*. Sacks continues:

Imagination dissolves and transforms, unifies and creates, while drawing upon the "lower" powers of memory and association. It is by such imagination, such "vision," that we create or construct our individual worlds.

Thus, at the level of the individual, there will always be a measure of mystery in the adaptations that occur in response to radical change. We see this mystery as much in Hull's embrace of deep blindness as in Torey's tending the flames of inner vision—in the interplay between the hardwiring of neurology and the software of the self. Such a mystery cannot be unraveled by science alone because the self simultaneously resides in and is created by the work of the imagination as it connects and transforms the memories and associations recorded by and stored in the brain.

To put this another way, we could say that our inner lives are both created and sustained by the imagination; and further, that in times of radical change the very survival of the self depends on imagining what was previously unimaginable—that life without sight is sensually rich, for example, or that one's blindness should be fully embraced. This observation doesn't resolve the mystery, of course, but only further sharpens it: How does one cultivate an imagination capable of such adaptation? How does one learn to live with and within new forms of embodied experience?

Practice Session One

Researching

If you are blind or visually impaired, skip this exercise and go to Reflecting (for blind or visually-impaired students) on the next page. If you are sighted, visit the online *Time* magazine photo gallery *Photos by Blind Photographers*. The opening blurb says that the exhibit "raises extraordinary questions about the nature of sight." What do you see when you look at these photographs taken by photographers who are legally blind? How do the words that accompany each image influence what you see? Can you unsee the words and consider the images simply as photographs? Search the Web for other works by these photographers and for the work of other blind photographers. Follow your curiosity.

Reflecting (for sighted students)

How do blind photographers teach the sighted to see? Using examples of images you have collected through your research, write a reflective essay about what you've learned about blindness and the imagination.

Reflecting (for blind or visually-impaired students)

Consider what the sighted could learn about perception through a representation of your experience. John Hull offers such a representation when he describes the intensity of experiencing rain as a "whole-body seer":

Rain has a way of bringing out the contours of everything; it throws a colored blanket over previously invisible things; instead of an intermittent and thus fragmented world, the steadily falling rain creates continuity of acoustic experience. . . . The sound on the path is quite different from the sound of the rain drumming into the lawn on the right, and this is different again from the blanketed, heavy, sodden feel of the large bush on the left. Further out, the sounds are less detailed. I can hear the rain falling on the road, and the swish of the cars that pass up and down.

Write a reflective essay that represents your experience of your environment. Does your experience strike you as idiosyncratic? That is, did your individual character, temperament, or will play a role in your perception of your environment?

Practice Session Two

Writing

John Hull, Zoltan Torey, and Sabriye Tenberken help Sacks to see the power of the individual imagination in shaping how one responds to trauma. But what about ordinary, everyday problems? Does the imagination come into play when confronting a problem that is not life altering?

Choose a mundane problem that arises in the course of your day: a disagreement with a family member; difficulty finding parking; misplacing your keys. Does this sort of problem, in its solution, yield evidence of the uniqueness of each individual's imagination? Or do mundane problems call for mundane solutions? Write an essay that explores multiple ways of solving an everyday problem, and consider whether your example demonstrates the powers of the human imagination.

Practice Session Three

Researching

Each of the readings we've included in this volume serves as an example of a writer encountering difficulty. Choose one of these essays and, while reading it, mark the moments when the author encounters difficulty. When you're done, review the passages you've marked. Are all the difficulties of the same kind? Of the same importance? Of the same intensity?

How does the writer respond to these difficulties? Write an essay in which you examine the writer's approach to difficulty. Although you might be tempted to say that the writer's approach is simply "idiosyncratic," explore in greater detail how the writer responds to difficulty that's encountered in the world of ideas and words.

EXPLORE

Our essay on encountering difficulty works with four examples of how people have responded to losing the ability to see. The material we suggest here further complicates our discussion. Michael Finkel profiles a blind man who sees like a bat. Filmmakers Peter Middleton and John Spinney interpret John Hull's audio-diary of his journey into blindness. A photo gallery showcases images created by people who are legally blind.

Finkel, Michael. "The Blind Man Who Taught Himself to See." *Men's Journal*. March 2011. Web.

Hull, John. "Memory," "Panic," and "Rainfall." Supplements to Peter Middleton and John Spinney's "Notes on Blindness." Audio. *New York Times*. Web.

Middleton, Peter, and John Spinney, directors. "Notes on Blindness." *New York Times*. 16 Jan. 2014. Web.

Photos by *Blind Photographers*. *Time* n.d. Web.