



Catching Our Eye

THE ALLURING FALLACY OF KNOWING AT A GLANCE

Maggie Jackson

HEADING HOME after a morning walk in Central Park in late spring, I saw a man on his hands and knees, peering at a patch of plants sprouting between the cobblestones at the park's perimeter. Tall and gaunt, he had a Lincoln-like beard and aura of calm. Lost key or contact lens? I stopped to ask. No, just looking, said the man, running his fingers across a tuft of grass and a mossy cushion of green. Two plants that normally flower in April and August were blooming simultaneously in May, he explained. Standing up beside his bicycle, he gazed down at the ragtag greenery at his feet. I asked if he was a botanist. No, he answered, just interested.

I am not a naturalist, and I wouldn't have caught this tiny glitch in the rhythm of the seasons no matter how hard I had looked. A certain expertise had primed this man's eye. But something beyond this feat of knowledge intrigued me. Willing to pause and look, he had seen a bit of wilderness pushing up through city stones. Lingering and considering, he had begun to comprehend an innocuous detail that had the potential to speak volumes about our warming earth. Could this brief encounter illuminate a larger paradox of our lives? I had stopped that day out of curiosity—and surprise. As I had rushed by, the man's moment of contemplation had seemed strikingly out of step with the tenor of our hurried and fragmented days. Screens in hand and bodies on the fly, we rarely let our roving eyes settle down to observe the tableau of life unfolding before us. Workers switch tasks on average every three minutes and open 70 percent of email within

six seconds (Gonzalez and Mark; see also Jackson et al.). Nearly a third of teens trade one hundred or more texts a day (Lenhart). Film trailers average nearly forty cuts per minute, triple the rate in the 1950s (Palmer). Reading, like truffle hunting, has become a search-and-grab operation, with deep analysis growing passé (Baron). We see what's before us, virtual or physical, only momentarily. Casting looks here and there like fish hooks into a stream, our sight is caught and tossed by torrents of shifting wonders. Yet how much can one fathom in a heartbeat or know deeply at a glance? How are speed and brevity, the twin markers of our day, redefining what it means to see and understand? Vision is our master sense, the main gateway to awareness, knowledge, and understanding. Operating on quick-cut glimpses, are we increasingly, as T. S. Eliot asked in "The Dry Salvages," having the experience but missing the meaning? Could the art of observation be worth a second thought in an age when looking grows cheap?

Seeing is believing, or so the saying goes. It's easy to assume that vision is fabulous camera-work, a series of clear, continuous readings of our ever-changing surroundings. After all, 70 percent of the body's sense receptors cluster in the eyes, the light-gatherers of perception (Ackerman). Sight literally expands our horizons, allowing us to imbibe detail and distant prospects alike. Nevertheless, we were not built to take in all before us. By necessity, survival is a constant process of simplification, at all levels of cognition. Even the most rudimentary mechanisms of perception engage in a ceaseless work of cognitive culling. The lowly neuron, foot soldier of the brain, doesn't, as was once assumed, simply funnel raw sensory data to the higher-order regions that "think." Instead, these front-line cells shift their synaptic tunes as much to our higher goals, expectations, and focus as to the pulsing environment. The ceaseless sifting and interpreting of information up and down the food chain of cognition—one of science's greatest recent discoveries—keeps us from being snowed by our surroundings, as schizophrenic and autistic minds sadly are. Still, our efficiency comes with a cost: perception is the art of the assumption, a first glance most of all. Moment to moment, we con-

struct experience largely based on wish, expectation, and slices of reality, while presuming that we are seeing and comprehending all.

Consider the “gorillas in our midst” experiment, one of the most famous psychology studies of recent times. Shown a sixty-second video of students tossing a basketball back and forth and instructed to count the passes, half of the viewers fail to spot a woman in a gorilla suit amble for a full nine seconds through the game (Simons and Chabris). Our “change blindness” is vivid proof of the triumph of selective perception. We did the job in counting the passes. What more could one ask? Yet in concentrating as instructed on the ball, we miss to our surprise a dramatic shift in the environment. In the running narrative of experience, “Things that do not fit the script,” observes neuroscientist Vilayanur Ramachandran, “are wiped wholesale from consciousness” (16). When one thousand vision scientists familiar with the gorilla experiment were shown an updated version of the video, most completely missed striking changes in the scene—a departing player, a curtain that changed color (Else). To err is human, to select is to prioritize. We cannot see all. But what if the setting were a crime scene and the gorilla an overlooked clue? What happens in the boardroom when we miss the peripheral yet crucial point? The opposite of understanding is not ignorance, notes Jerome Bruner: “To understand something is first to give up some other way of conceiving it” (122–23). Expecting to know everything at a glance is our most mistaken inference of all.

Such hubris inspired a Yale doctor more than a decade ago to turn to art as a balm for the hurried eye. Irwin Braverman, a dermatologist, grew concerned as high-tech, high-paced medicine dethroned the careful physical exam, the thorough patient history, and the role of sensory perception in care, undermining skills once thought indispensable. Taught simply to recognize patterns—if symptom A, then illness B; if test result C, then treatment D—young doctors, in particular, lack practice in close observation, a physician’s fundamental tool. The sharp diagnostic eye of the Scottish doctor Joseph Bell, after all, inspired the invention of the brilliant Sherlock Holmes. Frustrated one day by his residents’ struggles to identify subtleties

of skin lesions, Braverman brought them to a university museum to expose them to a puzzle they could not assume to solve instantly: a painting. Afterward, their ability to describe patients improved dramatically. In a now-mandatory program that he and a museum curator created, Yale medical students each examine a painting for fifteen minutes, then discuss their observations with a guide and their peers. “Look at the normal,” not just the eye-catching, the students are told. Approach the work with an open mind, moving past first assumptions. Revisit the subject, again and again.

Observing a painting of a pale young man lying prone in a darkened room, students often quickly assume that he’s drunk or sleeping. Gradually noticing the blue-gray of his lips and an empty vial nearby, they uncover the truth: Henry Wallis’ 1856 *The Death of Chatterton* depicts the suicide of a young eighteenth-century poet after his literary forgeries were unmasked. “We are trying to slow down the students,” said Yale School of British Art curator Linda Friedlaender, the program’s cofounder. “The artwork is a means to an end” (quoted in Finn; also, personal interview with author, March 2014). In effect, the painting, with its hidden stories and ambiguous subtleties, *becomes* a substitute patient. Adopted by dozens of other medical schools, the brief intervention was shown in a three-year study to boost diagnostic observational skill by nearly 10 percent (Dolev et al.; see also Braverman). At Harvard Medical School, students given eight hours of similar training produce nearly 40 percent more observations and offer more sophisticated, accurate notations on a visual skills exam than those not enrolled in the course (Naghshineh et al.).

What happens when we look closely? How does vision deepen into knowledge? A breakthrough understanding of the mechanisms of slow observation began to emerge a generation ago when psychologists seeking to deconstruct perception looked to the work of World War II code breakers led by the brilliant mathematician Alan Turing (Fleming). Rather than study just one sample of enemy code, Britain’s Bletchley Park spies cracked Germany’s infamous Enigma cipher by accruing samples over time in order to better sift signal from noise.

Intriguingly, our brains seem to work similarly, weaving various slices of sketchy information together before making perceptual or even high-order judgments, from discerning a shadowy object to choosing between two rewards. Our minds must do so because their own activity, expressed in the flickering firing of neurons, is irregular and unpredictable, a noisy business at best. “When the accumulated evidence reaches a critical threshold, a judgment—a decision—is made,” explains Columbia University neurologist Michael Shadlen, a leader in the study of decision-making’s neural basis (quoted in Perry; see also Shadlen and Roskies). This core building block of cognition underlies the famous speed-accuracy trade-off, the finding that slower judgments in novel situations tend to be less prone to error. In difficult, complex environments, we must be code breakers, endeavoring to decipher an ambiguous world through painstaking refinement of our assumptions. A first glance is just a beginning, the bare makings of understanding. Could close looking be a missing link to the depth in thinking that we increasingly sense we lack?

Forty percent of technology experts worry that hyperconnectivity is turning tech-immersed generations into impatient thinkers with a “thirst for instant gratification” (Anderson and Rainie, 2). More than one-third of workers report that they are so busy or constantly interrupted that they do not have time to process or reflect on the work they do (Galinsky et al.). American adults and children have become over two decades far less able to see things from multiple angles, synthesize information, and work out a creative endeavor in detail, longitudinal studies show (Kim). The upshot is clear: We are not thinking before leaping. Our eyes and minds alike are too often scattershot. The dynamism of speed promises endless downloadable progress. Instantaneity is the new frontier of Industrial Age efficiency. But increasingly, the costs of lives built on one tempo, march-step with the machine, have grown too dear to ignore. “Great understanding is broad and unhurried; small understanding is cramped and busy,” wrote the Taoist Zhuangzi (32). Could skilled observation be a training ground and gateway to the construction of knowledge? A few months after meeting the man in the park, I took

my hurried eyes to New York's Metropolitan Museum of Art to try an improbable challenge: gazing at a painting for three solid hours.

A young art historian's epiphany inspired my experiment. Around 2010, Harvard's Jennifer Roberts sensed that she not only had to more explicitly engineer the practice of close looking for her students, but defend its value as well. Opportunities to unlock the poetry and stories of their surroundings were no longer a given, and skill in doing so was waning. Roberts responded by placing one of her assignments, a three-hour "visual analysis" of an artwork, at the center of her teaching to show her charges that learning is not synonymous with access, that knowledge is not available at a glance. At first, many resist, incredulous that any analog object could contain enough information to occupy them at such length. When they learn of the assignment, there is a "look of terror in their eyes," Roberts told me when I interviewed her in April 2014. To help, students are given clues to looking: see with fresh eyes, keep questioning, explore multiple aspects of the object from its proportion and function to its content and sensuality. To inspire, she tells them how long it can take—twenty-one minutes, forty-five minutes, or hours—even for her, an expert, to notice crucial connections in paintings central to her research. For Roberts, introducing her students to the practice of "naïve observation" as preparatory research has become something more than a simple homework assignment. Time, she seeks to show, is not the enemy but the vehicle of understanding. Slowness is not an obstacle to progress but a key to the practice of knowledge-making. And close looking is preface to the hard-won *making* of thought. At heart, she is coaxing her students to question what's beyond surface appearances—of a painting, a frown, a flower, or an idea. By the end, many of her students tell her that they are astonished at what they have seen and learned. I had always considered myself observant, the quintessential sharp-eyed reporter. But settling down to begin the experiment, I wondered whether I'd really looked at anything before.

I chose Emanuel Leutze's *Washington Crossing the Delaware* for its famous subject, mammoth size, and handy nearby bench. Despite all that I'd learned about close looking, sizing up the work at first



seemed easy. In the 1851 painting, the imposing general stands at the prow of a crowded rowboat, eleven soldiers at his side, crossing the ice-strewn river hours before their pivotal Christmas 1776 victory in Trenton. We all know the story, the patriotic motif, and the hero who inspired this iconic yet seemingly dated image. What more could I possibly uncover? Fearing that I would rapidly fail the assignment, I began counting and categorizing: the men in the boat and their hats, their facial expressions and postures, and the splashes of eye-catching red—a blowing scarf, the stripes of a flag, the watery reflection of a soldier's scarlet tunic—sprinkled across a canvas dominated by tones of earth, wood, ice, and sky.

Then slowly, with each revisit of the canvas, inference led to guesswork, and detail built to overarching whole. Moment by moment, I began to see stories hidden in the painting. I quickly had noticed the bursts of red across the work, but in time I began to wonder: Were they harbingers of the blood to be shed in the battle to come? In twenty minutes, subtler signs of tense expectancy emerged: the muted flag held erect but furled, the chill emptiness

of the approaching riverbank, guns and bayonets held aloft, mute yet ready to do violence. In eighty minutes, the painting's stillness and silence hit me. With just a tiny splash at bow and oars, the boat hardly seems to move. No one, not even Washington, speaks. Nearly all vigilantly look ahead, one collective breath held in anticipation. In the time that I often spent racing past dozens of paintings, I had begun to decipher a familiar artwork's long-unseen artistry. The painting was telling me, when I took the opportunity to look, a tale of expectation—of the moment before a perilous landing, a daunting battle, and a fateful turn in a war to create an untested country. Was I right or wrong in my observations? What mattered most was the process of deciphering the artists' intentions, the texture of a long-past day, and an iconic story newly told. I had passed by the image many times, blind to its secrets. In just a few hours, I had begun unlocking a code that I'd never even realized existed.

The process was hardly pure, a series of easy epiphanies. I took breaks and checked the clock. My focus at times bounced around the canvas and the room. I hit multiple seeming dead ends: focusing on Washington's steely posture, I overlooked until the end the humanizing curves of his flowing cape and middle-aged girth. Looking often gave me scattered particulars and snippets of information that demanded repeated consideration. Nothing worthwhile in those hours came automatically, without an effort of tenacity and synthesis. But if we are willing, the work of close looking combines a visual with an intellectual journey of meaning-making. We begin to see and consider detail, weigh and bypass the irrelevant, and reconsider first assumptions, emerging in time with a more textured understanding of what's before us. Looking closely *is* thinking, as we are beginning to understand. Even brief guided encounters with artworks, for instance, can boost children's critical thinking skills. In one yearlong study, Arkansas students, many of whom hadn't visited a museum before, showed modest but significant gains in thinking ability, mostly due to improved observation skills, after seeing five paintings on an hour-long museum tour. Minority, low-income, and rural children made double to triple the improvements of their

peers (Bowen, Greene, and Kisida). Given time and effort, eye and mind work toward mutual discovery.

There is much we still do not know about how the world shapes and moves us, and how we do so in return. But in an age of quick-cut speed and machine-driven attention, times and spaces for training the human eye deeply matter. Immersive virtuality is explicitly designed to grab and splice our focus. It preys upon our minds. Physical objects—an artwork, an element of nature, or a printed page—in all their stillness and solidity, better allow us to navigate and manage the pace of our learning. In the museum I was on my own in seeing and understanding, as long as I resisted the click that would rescue me from the conundrum before my eyes. Of course, there is no magic in the analog. It's unusual today to spend even as long as a minute in front of a great work of art (Smith), and I would guess we similarly rush past the evocative people or telling blossoms that surround us. Skill and time in looking are a necessity to decode any aspect of our environment. Yet in an age of increasing expectation of immediate clarity, we urgently need to cultivate counterpoints to quick, machine-fed knowledge: the mysteries that we ourselves slowly and imperfectly decode. Think of a painting or a face or flower as canvases for the art of looking, as old media for practicing crucial skills that our screens may be too busy and predatory to allow. When I bothered to look closely, a painting that I carelessly had chosen to observe conveyed to me a slow-told story of endurance and forbearance. But the experience of contemplation itself taught me all the more.

Just twenty minutes before I turned to go, a young tour guide shepherded a group up to the painting. One of the most iconic of American images, the work is a symbol of hope and liberation, he said. It is a painting of rebellion against tyranny. Yet the artist deliberately chose to depict not the triumph and glory of a wartime victory, said the guide, but the suspense of an unknown outcome. I listened, reassured. My efforts had not unlocked all truths about this painting. Yet my time before the canvas had put me on the path to knowledge. In looking, I had begun to see.

References

- Ackerman, Diane. *A Natural History of the Senses*. New York: Random House, 1990.
- Anderson, Janna, and Lee Rainie. "Millennials Will Benefit and Suffer Due to Their Hyper-Connected Lives." Pew Research Center's Internet and American Life Project, February 29, 2012, <http://www.pewinternet.org/2012/02/29/millennials-will-benefit-and-suffer-due-to-their-hyperconnected-lives/>.
- Baron, Naomi. "Redefining Reading: The Impact of Digital Communication Media." *PMLA* 128 (2013): 193–200.
- Bowen, Daniel, Jay Greene, and Brian Kisida. "Learning to Think Critically: A Visual Art Experiment." *Educational Researcher* 43 (2014): 37–44.
- Braverman, Irwin. "To See or Not to See: How Visual Training Can Improve Observational Skills." *Clinics in Dermatology* 29 (2011): 343–46.
- Bruner, Jerome. *On Knowing: Essays for the Left Hand*. Cambridge, MA: Belknap Press of Harvard University Press, 1962.
- Dolev, J. C., et al. "Use of Fine Art to Enhance Visual Diagnostic Skills." *Journal of the American Medical Association* 286 (2001): 1920–21.
- Else, Liz. "Would You Spot the Gorilla?" *New Scientist*, June 2010, 32–33.
- Finn, Holly. "How to End the Age of Inattention." *Wall Street Journal*, June 2, 2012.
- Fleming, Steve. "Hesitate!" *Aeon Magazine*, January 8, 2014.
- Galinsky, Ellen, et al. *Overwork in America: When the Way We Work Becomes Too Much*. New York: Families and Work Institute, 2005.
- Gonzalez, Victor, and Gloria Mark. "'Constant, Constant Multi-Tasking Craziiness': Managing Multiple Working Spheres." *Proceedings of the ACM CHI'04* (2004): 113–20.
- Jackson, Thomas W., et al. "Understanding Email Interaction Increases Organizational Productivity." *Communications of the ACM* 46 (August 2003): 80–84.
- Kim, Kyung Hee. "The Creativity Crisis: The Decrease in Creative Thinking Scores on the Torrance Tests of Creative Thinking." *Creativity Research Journal* 23 (2011): 285–95.
- Lenhart, Amanda. "Teens, Smartphones and Texting." Pew Research Center's Internet and American Life Project, March 2012, <http://www.pewinternet.org/2012/03/19/teens-smartphones-texting/>.
- Naghshineh, Sheila, et al. "Formal Art Observation Training Improves Medical Students' Visual Diagnostic Skills." *Journal of General Internal Medicine* 23 (2008): 991–97.
- Palmer, Katie. "Movie Trailers Are Getting Insanely Fast." *Wired.com*, June 18, 2014.
- Perry, Susan. "Decision-Making," *Brainfacts.org*, October 1, 2009.
- Ramachandran, Vilayanur, and Diane Rogers-Ramachandran. "How Blind Are We?" *Scientific American* (Special Edition) S18.2 (2008): 16–17.
- Roberts, Jennifer L. "The Power of Patience: Teaching Students the Value of Deceleration and Immersive Attention." *Harvard Magazine*, November–December 2013.
- Shadlen, Michael, and Adina Roskies. "The Neurobiology of Decision-Making and Responsibility: Reconciling Mechanism and Mindedness." *Frontiers in Neuroscience* 6 (April 2012): 1–12.

- Simons, Daniel, and Christopher Chabris. "Gorillas in Our Midst: Sustained Inattention Blindness for Dynamic Events." *Perception* 28 (1999): 1059–74.
- Smith, Jeffrey K. "Art as Mirror: Creativity and Communication in Aesthetics." *Psychology of Aesthetics, Creativity and the Arts* 8 (2014): 110–18.
- Zhuangzi. *Zhuangzi: Basic Writings*. Trans. Burton Watson. New York: Columbia University Press, 2003.

