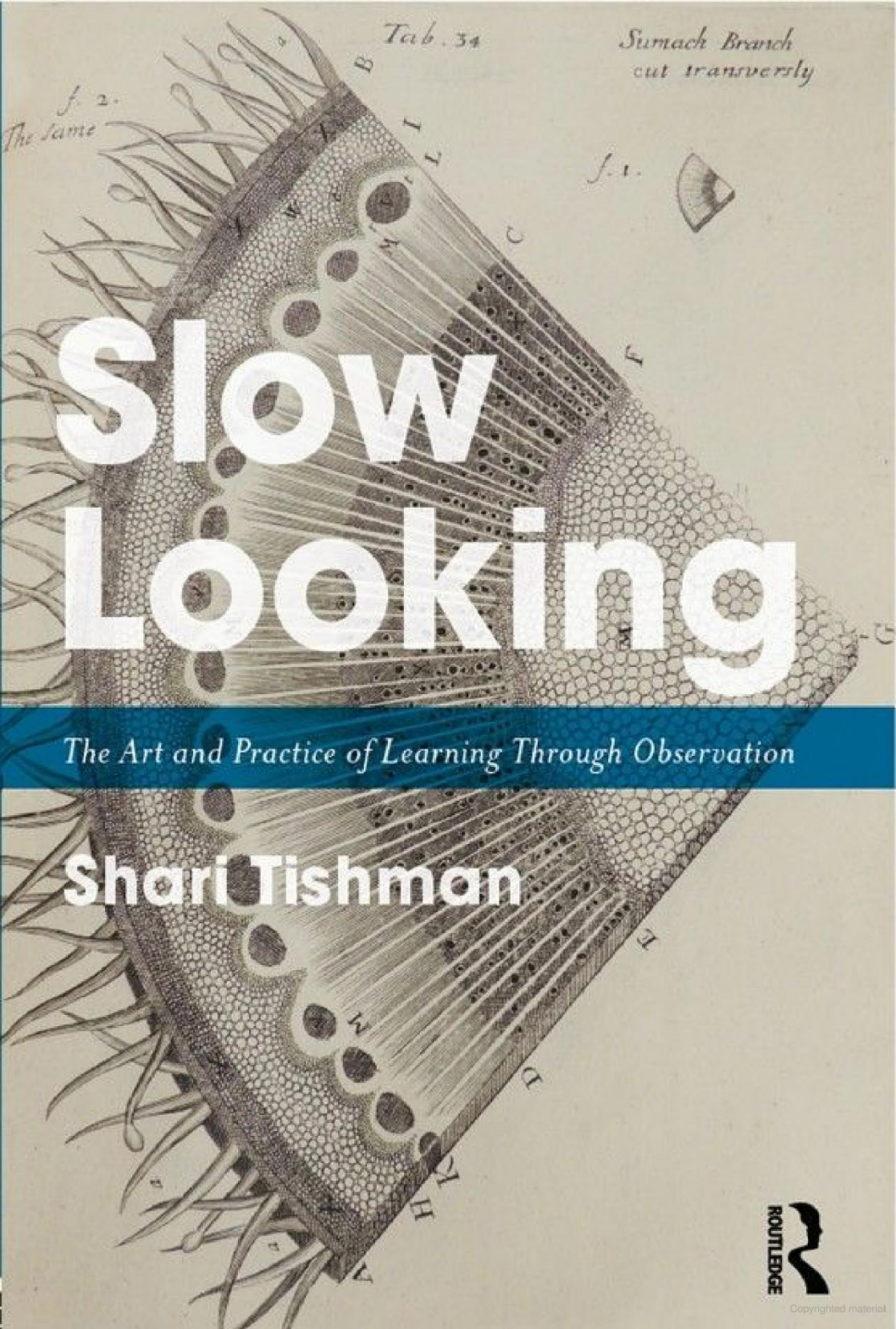



# Slow Looking

## The Art and Practice of Learning Through Observation

Shari Tishman

ROUTLEDGE

First published 2018
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

*Routledge is an imprint of the Taylor & Francis Group, an informa business*



*Library of Congress Cataloging-in-Publication Data*
Names: Tishman, Shari, author.
Title: Slow looking : the art and practice of learning through observation / Shari Tishman.
Description: New York, NY ; Abingdon, Oxon : Routledge, 2018. | Includes bibliographical references and index.
Identifiers: LCCN 2017023985 (print) | LCCN 2017044953 (ebook) | ISBN 9781315283814 (e-book) | ISBN 9781138240407 (hardback) | ISBN 9781138240414 (pbk) | ISBN 9781315283814 (ebk)
Subjects: LCSH: Observation (Educational method) | Critical thinking—Study and teaching—Methodology.
Classification: LCC LB1027.28 (ebook) | LCC LB1027.28 .T57 2018 (print) | DDC 371.3/8—dc23
LC record available at https://lccn.loc.gov/2017023985

ISBN: 978-1-138-24040-7 (hbk)
ISBN: 978-1-138-24041-4 (pbk)
ISBN: 978-1-315-28381-4 (ebk)

Typeset in Bembo
by Florence Production Ltd, Stoodleigh, Devon

# Contents

*Acknowledgments*

1 Introduction: Slow Matters

2 Strategies for Looking

3 Slow in Practice

4 Looking and Describing

5 Look for Yourself … and Visit a Museum

6 Looking Goes to School

7 Science Learns to Look

8 Slow Looking and Complexity

9 Conclusion: Thinking Through Slow

*Index*

# Acknowledgements

This book has been a while in the making. I have the good fortune of working at Project Zero, a research center at the Harvard Graduate School of Education (HGSE), and it is hard to imagine a more supportive and stimulating community of colleagues. I am grateful to all of my friends at Project Zero for their ongoing inspiration and encouragement. I am also indebted to the many school teachers and museum educators connected to Project Zero over the years who have allowed me to learn from their experiences.

I owe a special thanks to David Perkins. Many of the ideas in this book were tested, explored, and made better through our countless good conversations. I am exceptionally grateful to Edward Clapp and Liz Dawes Duraisingh, who helped me develop a concrete vision of this book and coached me through the early stages of making it a reality. I warmly thank my friend and Project Zero colleague Carrie James for her steady, day-to-day encouragement, and for always being ready with a practical suggestion and an inspirational idea.

I am grateful to the many friends and colleagues who have conversed with me about ideas that found their way into the book: I appreciate the walk-and-talks with Patty Stone, and the tea-and-talks with Alythea McKinney. A special thanks to Seymour Simmons for helping me explore the connections between slow looking and drawing, and to Corinne Zimmerman for our many stimulating conversations about slow looking in museums. I thank Scott Reuscher for always directing me to the right poet, and I am deeply grateful to Jordy Oakland for her help with some early literary research that got me started. I am indebted to Jessica Ross for her insightful help in applying "slow", to classroom practice, and I thank Jim Reese for allowing me to work some of these ideas out on stage, sometimes before they were ready for prime time. I am grateful to Howard Gardner for his kind encouragement.

Some of the ideas in the book connected to the Out of Eden Learn project were developed under a grant from the Abundance Foundation. I gratefully acknowledge the foundation's support, and I am particularly appreciative of the support and counsel of its president, Stephen Kahn. A special thanks to Paul

Salopek, the original Out of Eden walker, whose work and friendship have provided inspiration along the way. I warmly thank Susie Blair for partnering with me on analyzing the student data from Out of Eden Learn, and I thank Michelle Nguyen for her invaluable help during the later stages of that work.

Throughout this book, various works of art are referenced in the text or reprinted at a small scale in black and white. I am grateful to the artists, museums, and scholars who have allowed me to reprint their work, and I encourage readers to supplement their reading experience by searching for full-color versions of these works online.

Dan Schwartz, my editor at Routledge, has provided welcome encouragement and valuable feedback. I am profoundly grateful to Allison Wigen, who assisted in the development of the manuscript and provided wisdom, encouragement and practical assistance at precisely the moments they were needed. My sister, Andrea Tishman, has truly been along on this journey since the beginning: So much is due to her ready ear, constant encouragement, and insightful eye. I thank my husband Robert Sowa and my son Stefan Sowa for their loving support every step of the way.

This book is dedicated to the memory of Martin Andic—professor, friend, and a true teacher of "slow," whose inspiration so many years ago started me along the path.

CHAPTER 1

# Introduction: Slow Matters

*In Oakland, California, four ninth graders wielding screwdrivers sit around a table and take apart a doorknob. Using their hands and their eyes, they explore the doorknob's intricacies and interconnected parts. On the table in front of them is a large sheet of paper on which they make notes and sketches, documenting their discoveries as they go along.*

*In Central Asia, a journalist is traveling by foot along the route of the ancient Silk Road. A practitioner of slow journalism, he is listening for stories that don't make headline news. In a suburb outside of Samarkand, Uzbekistan, he stops to visit with a traditional papermaker. He watches a waterwheel power wooden mallets that pound tree bark into a fibrous pulp. He writes that when the paper is dried and polished, it feels as soft as silk.*

*At the Museum of Fine Arts in Boston, Massachusetts, a group of medical residents gathers in front of a large painting. Their purpose is to develop their observation skills through looking at art. A museum guide tells them to look closely at the painting and talk about what they see. As the conversation unfolds, the residents are surprised to discover how differently they each interpret the painting, even though they are all drawing on the same visual clues. The experience causes them to think anew about their own clinical practices.*

*Across the river in Cambridge, Massachusetts, middle school student bends close to a computer screen and enters the immersive virtual environment of a pond ecosystem. Shrinking herself down so she can get into a micro-submarine, she explores the pond floor where she discovers some microscopic organisms. She carefully observes their behavior over a period of virtual days.*

*In Chennai, India, an 11-year-old girl takes a slow walk through her*

*neighborhood with the intention of looking at her familiar environment with fresh eyes. She takes pictures and makes notes of things she has never noticed before. Later, she logs into an online forum where she posts the story of her walk. While she's there, she browses the posts of students in other countries who have taken similar walks and looks at their neighborhoods through their eyes.*

These are stories of slow looking in action. The definition of slow looking is straightforward. It simply means taking the time to carefully observe more than meets the eye at first glance. It is happening in each of these vignettes, and it happens anywhere people take a generous amount of time to observe the world closely—in classrooms, in art galleries, in laboratories, online, in backyard gardens, and on neighborhood walks.

This book is an exploration of slow looking as a mode of learning. The term slow looking uses the vernacular of the visual, but it is important to emphasize that learning through prolonged observation can occur through all of the senses. Most of the examples and ideas in this book are about visual observation, but many aren't, and I often use the term "look" to refer to sensory observation more broadly. So, for example, I might say that the ninth-graders in the opening vignette are "looking" at a doorknob with their hands as well as their eyes.

Whatever sensory form that it takes, slow looking is a way of gaining knowledge about the world. It helps us discern complexities that can't be grasped quickly, and it involves a distinctive set of skills and dispositions that have a different center of gravity than those involved in other modes of learning. I believe that it is also a learnable practice.

I came to the topic of slow looking in a roundabout way. I work as an educational researcher, and my focus is on what people in my field sometimes call high-level cognition. I'm interested in forms of thinking that go beyond basic literacies, and my research projects often focus on programs and practices that help people learn to think critically, reflectively, and creatively.

For many years, learning through observation wasn't something I thought about a great deal. If I thought about observation at all, it was as a means to an end—something one did to gather data, which would then feed into higher-level thinking processes like reasoning or problem solving. But eventually I started to see things differently. I remember the first time my new awareness began to crystallize. I was visiting a fifth-grade classroom, and it was the beginning of the school day. Students were noisily spilling into class, and the teacher told me she

was planning to spend the next half hour having them look at a painting by Matisse. I nodded politely. What I was really thinking was this: Tell a group of fifth-graders to sit still and look at a painting for 30 minutes, and you will very quickly have a classroom of squirming, restless kids. But the teacher had a plan. She used some simple strategies to help students prolong their observations beyond a first glance, and it was amazing how effective they were. These were *really* simple strategies, like asking students to make a list of five things they notice and then going around in a circle and having each student make an observation that expands on something someone previously said. And having students turn to someone else and share two questions they had. Half an hour flew by.

At each fresh round of observations, the teacher gave students plenty of time to look. What she didn't do was give them much textbook information about the painting. Nonetheless, it was stunning how much students learned. For example, as their observations accumulated, they began to discern the structural complexity of the work—the way the various forms and colors and lines worked together to form a whole. They also detected several ambiguities in the painting—aspects of it that could be interpreted in different ways. The painting was of a colorful, vividly patterned dining room, with an empty chair next to a table. The students wondered who the chair was for. The artist, maybe? They even envisioned themselves sitting in the chair and imagined what it would feel like. (Nice, they thought, but maybe a little claustrophobic.) And so on. Even if the students didn't come to consensus about the "correct" interpretation of the painting (if indeed there is one), and even though they couldn't recite historical information about the work, they had clearly learned a great deal. Moreover, the knowledge they gained depended wholly on the fact that they were looking long and closely for themselves. No amount of outside information could have replaced the insights they gained.

After this experience, I started noticing the power of slow looking in other settings as well—inside and outside of schools. I became fascinated by how intrinsically engaging slow looking could be with just a little bit of structure to sustain it. I came to see it as a form of active cognition with an intrinsically rewarding feedback loop: the more you look, the more you see; the more you see, the more engaged you become. I began to wonder about the commonalities in observational practices across different contexts—in the arts and humanities, in science, and in everyday life. I sought out research projects where I could learn more about slow looking, and I increasingly incorporated slow looking

into my own university teaching. I became interested in the presence of slow looking in historical ideas about schooling, and in the history of museums. I grew curious about the connection between slow looking and the history of scientific observation, and about the connection between slow looking and literary description. Throughout, I continued to try to understand the learning benefits of slow looking and the educational practices that supported them.

This book is the story of where these inquiries led. I've written it with educators in mind, and if you are looking for practical ideas and strategies to use in the classroom, you will find several of them here, particularly in the earlier and final chapters. You'll also find some exercises that invite you to try slow looking yourself. But many of the ideas and examples discussed in the book go far beyond the classroom. My hope is that the book will be of interest to anyone who is curious about slow looking—what it is, how to do it, and why it matters.

## Slow is in the air

I am definitely not alone in my interest. An appreciation of all things slow is part of the culture these days, and there seems to be a date when it started. In 1986, an Italian food and wine journalist named Carlos Petrini organized a demonstration on the Spanish Steps in Rome in order to protest the intended opening of a MacDonald's restaurant on the site. The event was credited with sparking the slow food movement, which celebrates local foods, sustainable food production, and the slow enjoyment of the traditional pleasures of the table. The movement has since spread worldwide, and continues to thrive today. It is part of what seems to be a growing appetite for "slow" in contemporary culture. To give just a few examples: There is "slow art day"—an annual event held in museums around the world, with very simple rules: go to an art museum, look at five pieces for 5 to 10 minutes each; then have lunch with someone and talk about what you saw. There is also a slow education movement that eschews a fast-food model of schooling designed to deliver what it calls "packages of test-shaped knowledge" and instead argues for schooling that encourages in-depth learning and quality interactions between teachers and students.[1] And there's "slow journalism," practiced by a growing number of journalists who refuse to feed the public craving for instant information and instead emphasize moving slowly through the world, listening carefully to its stories, and reporting at a human pace.

Not all of these slow trends foreground slow *looking*, but they all involve

moving beyond first impressions toward more immersive, prolonged experiences that unfold slowly over time. To some extent, this book is part of that trend. But there are some features of slow looking as I define it that may not fit with the larger trend. One is that I don't believe slow looking is necessarily characterized by a quiet, meditative mood. As I learned when I walked into that fifth-grade classroom, prolonged observation can be an energetic, lively affair. Of course, it can also be peaceful and tranquil, and, even spiritual for some. But it needn't be any of these things. I come back to this point in a later chapter, but I mention it now because I want to be clear that I lean toward an expansive rather than narrow view of slow looking; people of almost all ages can do it, and it can happen in many moods and at many tempos.

Nor do I believe that slow looking is necessarily anti-technology, even though the speed of digital life can pose a challenge to "slow". We live in the digital age. Immersive social media, omnipresent news streams, endless information at the tap of a finger—all have the potential to fracture attention spans. But digital technologies and media can also be powerful tools to help people look closely at things they may otherwise overlook. For example, thanks to NASA's social media presence, at this writing millions of people recently spent quite a bit of time looking at pictures of rocky, barren comets as they hurtle through space. Through digital crowd sourcing, thousands of people now aid scientists in their careful observations of the natural world. Through media images gone viral, hundreds of thousands of people carefully scrutinize the actions of public figures. Our fast-paced, digitized culture may present challenges to slow looking, but it also offers opportunities.

There are three main reasons why it is important to pay attention to slow looking. These reasons may feel especially pressing in the digital age, but they are not unique to it.

*1. Slow looking is an important counterbalance to the natural human tendency toward fast looking.* Most of the time, we scan our visual environments rapidly, unreflectively taking in whatever surface information is readily available and briskly moving on. We make first impressions quickly, and they tend to stick. Moreover, when we're in this fast mode we tend toward fill-in-the-blank looking. A few well-placed brush strokes and we "see" a whole face, just as we get the gist of a song by hearing just a few lines. Usually fast looking serves us pretty well. It would be absurdly inconvenient to have to look at things over and over again in order to recognize them. Intuitive, visual sense-making is necessary in order to move through the world efficiently. But some things take

more than a quick glance to fully apprehend. When you look at a map of an unfamiliar city you can see quickly that it's a map, but you'll need to study it for a while in order to make use of the information it offers. You can often get the gist of things by looking at them fairly quickly, but uncovering their complexity takes time. A brief glance at a tree tells you that it has a trunk, branches, and leaves. But it takes time to notice the variegated pattern of lichen on its bark, the irregular shape of its canopy, and the myriad creatures that are part of its ecosystem.

*2. Slow looking tends to be under-emphasized in general education.* The mind's most productive work doesn't always come naturally. Shifting gears from fast looking to slow looking parallels how cognitive psychologists talk about the fast mind and the slow mind.[2] The fast mind is characterized by rapid, intuitive, automatic judgments—including judgments made through visual first impressions—and it is the mind's most prevalent operating mode. The slow mind is characterized by deliberative, careful thought. Its hallmarks are reasoning with evidence, analytical thinking, and careful decision making. The rewards of slow thinking are huge (consider the entire projects of modern science and Western philosophy), but slowing the mind down and getting it to forego fast intuitive judgment in favor of slow deliberation takes vigilance, willpower, and training.

In educational circles, most people agree on the value of training the deliberative mind. Educators (including me) espouse the importance of teaching young people to reason with evidence, to analyze and evaluate arguments skillfully, and to make judgments thoughtfully. We regard these capacities as general thinking skills that are useful in all subject matters and in everyday life. Many school curricula purport to teach these essential skills, and developing the capacity to think critically is part of what people often mean when they describe a good general education.

The teaching of slow looking, on the other hand, tends to be a more specialized affair. A high school student might get a chance to practice slow looking in an art history class or a science lab. But developing the capacity to observe the world slowly isn't usually put forth as a core educational goal. This is unfortunate, because slow looking has the same wide applicability as slow thinking, but the skill sets are somewhat different. Slow thinking involves analyzing information, weighing evidence, and making careful inferences. Slow looking, on the other hand, foregrounds the capacity to observe details, to defer

interpretation, to make careful discernments, to shift between different perspectives, to be aware of subjectivity, and to purposefully use a variety of observation strategies in order to move past first impressions. There is overlap, of course. For example, both slow thinking and slow looking emphasize the capacity to look at things from different perspectives and to seek information from a variety of sources. But neither area subsumes the other, and giving educational attention to one area won't fully develop capacities in the other.

3. *Looking closely is a shared human value.* People disagree about many things, but few people disagree about the value of careful observation. Most of us intuitively understand that the world is a complex place, and that we often rush to judgments about how to resolve or untangle its complexities a bit too quickly. Slow looking is a healthy response to complexity because it creates a space for the multiple dimensions of things to be perceived and appreciated. But it is a response that, while rooted in natural instinct, requires intention to sustain. This is easier said than done. Often, the most important moments to slow down and look carefully are also the hardest: political disagreement, personal disputes, conflicting values—all have to do with clashing beliefs about how things are or should be. But conflict is often a symptom of complexity—a sign that there is more to things than meets the eye. Imagine an education that trained us to recognize conflict as a cue to examine complexity rather than a cue to dismiss it.

A key argument of this book is that slow looking is, to a large extent, a *learned* capacity. The problem isn't so much that people don't believe in its importance; it's that they haven't been helped to develop the skills and dispositions to support it. Contemporary Western education emphasizes the role of rational, critical thought in the pursuit of knowledge. Slow looking may not typically be identified as a core educational value, but its contribution to critical thinking is foundational: before we can decide what is true and right, it's important to simply look closely at what's at hand.

## Notes

1 See, for example, http://www.slowmovement.com/slow_schools.php.

2 For the most comprehensive review of this work, see Kahneman, D. (2011). *Thinking, Fast and Slow.* New York: Farrar, Strauss and Giroux.

CHAPTER 2

# Strategies for Looking

Slow looking is everywhere. It is part of the daily work of experts, in the way that systematic scientific observation is part of the study of biology, and it is a common practice in everyday life—something we do when we take time to carefully examine a painting in a museum or a family photograph or an insect on the sidewalk. The practice of slow looking isn't an esoteric pursuit, but it is often a strategic one because it involves the intentional use of observation strategies to guide and focus the eye. If you've ever used a checklist to observe birds in your backyard, set a schedule to systematically notice changes in a garden over time, or intentionally softened your gaze to see a painting in a new light, you've used an observation strategy, which works by providing the eye with various kinds of structures and expectations.

Specialists in different areas look closely at very different kinds of things. Forensic anthropologists scrutinize skeletons. Mariners observe patterns of winds and waves. Psychologists observe patterns of human behavior. Educators look closely for signs of student learning. Though the things they look at may vary, the basic strategies that experts use to make observations are strikingly similar across disciplines. Moreover, the strategies themselves are quite simple: anyone can learn how to use them, and they can be seen at work in all sorts of human endeavors. This chapter looks at four of these broad observation strategies, drawing examples from science, art, and everyday life.

## Categories to Guide the Eye

It's a rainy Saturday afternoon, and the entrance hall of the art museum echoes with chatter as visitors shake out umbrellas and line up to purchase tickets. In a corner of the hall a group of people gather under a sign.

Public tour begins here at 2:00 PM
Slow Looking
All Welcome

Soon, a museum guide arrives. She introduces herself to the group, exchanges a few pleasantries, then leads the visitors down a hall and into a large, high-ceilinged gallery filled with nineteenth-century American paintings. She pauses to give people a moment to soak in the space, and then gathers them around a large painting of a seascape.

The visitors look at the painting for a moment, then peer at the wall placard next to it. Then they look back to the guide expectantly, waiting to hear what she has to say. Instead of launching into a lecture, the guide says, "Let's start by just looking at the painting and noticing its features. I have three questions for you: What colors do you see? What shapes do you see? What lines do you see? Let's start with colors."

## Try This

### Color, Shape, Line

Use this strategy with an art image, a view of nature, a cityscape, or whatever environment you happen to be in now.

What colors do you see?

Describe several.

What shapes do you see?

Describe several.

What lines do you see?

Describe several.

Do it alone, or do it with someone else and share your observations.

The group is quiet for a moment, and then someone speaks.

> "I see a gray sky."
>
> "I see white clouds, streaked with gray and violet," someone else says.
>
> "There's a pale yellow glow in the upper right corner of the painting," another visitor chimes in. "It looks like the sun is trying to come through."

Soon, everyone is pointing out colors in the sky. Eventually, people's attention shifts downward to the lower half of the painting and they start describing the

color of the sea. At first they describe it as blue or bluish-green. But someone points out a streak of silvery purple, and suddenly the visitors begin to see a variety of hues and tones in the water that they hadn't seen at first. Someone observes that the color of the water is reflecting the color of the sky, and people's eyes return to the sky, this time noticing subtleties of coloration they hadn't noticed before.

To elicit these observations, the museum guide is using the most common observation strategy: the use of categories to guide the eye. In its broadest form, this strategy works by instructing the eye to look for certain types of things. The museum guide uses the categories of color, shape, and line. In another discipline the categories might be quite different. For example, physicians use categories to help them recognize typical symptoms of illnesses (skin color, breath odor). Archaeologists use categories to help focus their attention on specific sets of features in a landscape that may indicate the presence of buried artifacts (concavities, ridges). Detectives investigating property theft look for specific kinds of clues to help them identity the thief (tool marks, footprints, fibers).

Categories vary widely across contexts, but their basic purpose is the same: they function as a lens to selectively focus the flow of perception on certain features. They operate at a conscious and unconscious level, and it is impossible to imagine human cognition without them. Categories are at work in the expectations, purposes, and assumptions we bring to any experience, allowing us to "see" certain things rather than others. For example, when the museum visitors entered the gallery of nineteenth-century painting they expected to see paintings, which is exactly what they noticed. They probably also noticed the wooden benches in the middle of the gallery since they had to walk around them. But mainly they were focused on the art on the walls. Some visitors may have also noticed the color of the walls (a creamy beige), and perhaps a few of them noticed details like the exit signs and the scuffed wood of the gallery floor. But probably nobody noticed the shape of the light fixtures high on the ceiling, or the motes of dust in the corner, or the even paces of a museum guard as he walked slowly around the perimeter of the gallery.

Lift your eyes from this page for a moment and look at what's in front of you. You might think you can count the number of things you see. But with millions, if not billions, of visual stimuli flooding your eye in any given moment it's impossible for the mind to consciously process all the visual information that comes its way. It is essential to have a filtering mechanism. Otherwise, we couldn't walk across the room without being overwhelmed. But as much as we

depend on the mind's workaday unconscious filtering, so too can we consciously overlay it with category strategies to direct the flow of our attention to things we might otherwise overlook. For example, if the museum guide were to ask her visitors to intentionally *try* to notice the color of the walls, or the dress of other visitors in the gallery, or the quality of light, or any number of other things, they could easily do so. But this shift of attentional focus would come at a price: by looking at these things the visitors would probably be paying much less attention to the paintings.

The thing is, we can't be aware of everything we see (although, as I'll discuss in a moment, there can be strategic benefit in trying to do so). Selective attention is a powerful force. We can select what we choose to look at, but doing so necessarily blinds us to other things. One thing that may alter this system is surprise. When something surprising enters our visual field, we often have the sensation of "just seeing it," without having to shift our expectations in order to discern it. For instance, surely our museum visitors would notice if a clown on stilts walked through the gallery, even if they are focused on looking at the paintings. Or would they? It might depend on how intently they are looking for colors, shapes, and lines.

Sometimes our gaze is so fixed on looking for a certain type of thing that we can be astoundingly blind to things outside of our attentional focus. A dramatic example of this comes from the work of cognitive scientist Daniel Simons and his colleague Christopher Chabris. A number of years ago, Simons donned a gorilla suit and the two psychologists conducted an experiment that has become a bit of a sensation. Here's how it goes: subjects are asked to watch a short video of six people wandering around passing basketballs to each other. Three people are wearing black shirts, three are wearing white shirts. The task is to count the number of passes the people in white shirts make. There's a lot of walking and passing going on and it takes some concentration to focus on the white-shirted people (hint: category). Midway through the video, a gorilla walks into the midst of the perambulating people. He pauses to face the camera, thumps his chest, and then strolls off screen. Incredibly, when the experiment was first conducted at Harvard University in 1999—before the video had gone viral—half of the viewers who were focused on the counting task didn't even see the gorilla.[1]

The categories we use to focus our attention profoundly shape what we see. They also shape what we think. Consider the categories that the museum guide

chose. Color, shape, and line are certain formal elements of a painting. While the specificity of these categories seems to do a good job of getting visitors to slow down and look carefully, their selectivity also communicates ideas about value and importance. So are these the "right" categories to use when looking at art? It's a good question to ask, even if there isn't a right answer. For example, a formalist art theorist might argue that the museum guide's strategy is inadequate because it fails to guide the eye to other important formal features of the painting, such as scale and proportion or the geometrical organization of the canvas. Another scholar might argue that a strategy for looking closely at art shouldn't begin by emphasizing formal elements at all, but instead should direct people's attention to the story the painting is trying to tell. Yet another scholar might argue that what's important is to look at features in the work that show the cultural influence of the time and social context in which the painting was made.

Debates about which category systems should guide observation don't always get settled easily or at all. But sometimes a set of categories advances the observational practice in a field so rapidly that they quickly become standard practice. Turning to science, a good example comes from the work of Joseph Grinnell, the first director of the Museum of Vertebrate Biology at University of California at Berkeley, and one of the developers of the idea of the "ecological niche". In his early training as an ornithologist in the late 1800s, Grinnell travelled widely to observe birds and other animals in their natural habitats, and he recorded his observations in field notes. Following the note-taking conventions of the time, his notes consisted of lengthy lists that recorded the names of species and number of birds seen, but not much else. Though this was standard practice in the field, Grinnell came to realize that limiting the scope of his field notes to two categories—species and number—discouraged observers from paying close attention to other important features, such as weather and habitat. So Grinnell developed a more rigorous system that required note taking in numerous categories. The system, which he required his assistants to use scrupulously, encouraged the collection of much richer environmental data than had been previously collected, and his method is often credited with fueling the huge growth of environmental field research in the United States in the early twentieth century. More than a century later, the "Grinnellian Method" is still standard practice for many naturalists today.

## Open Inventories

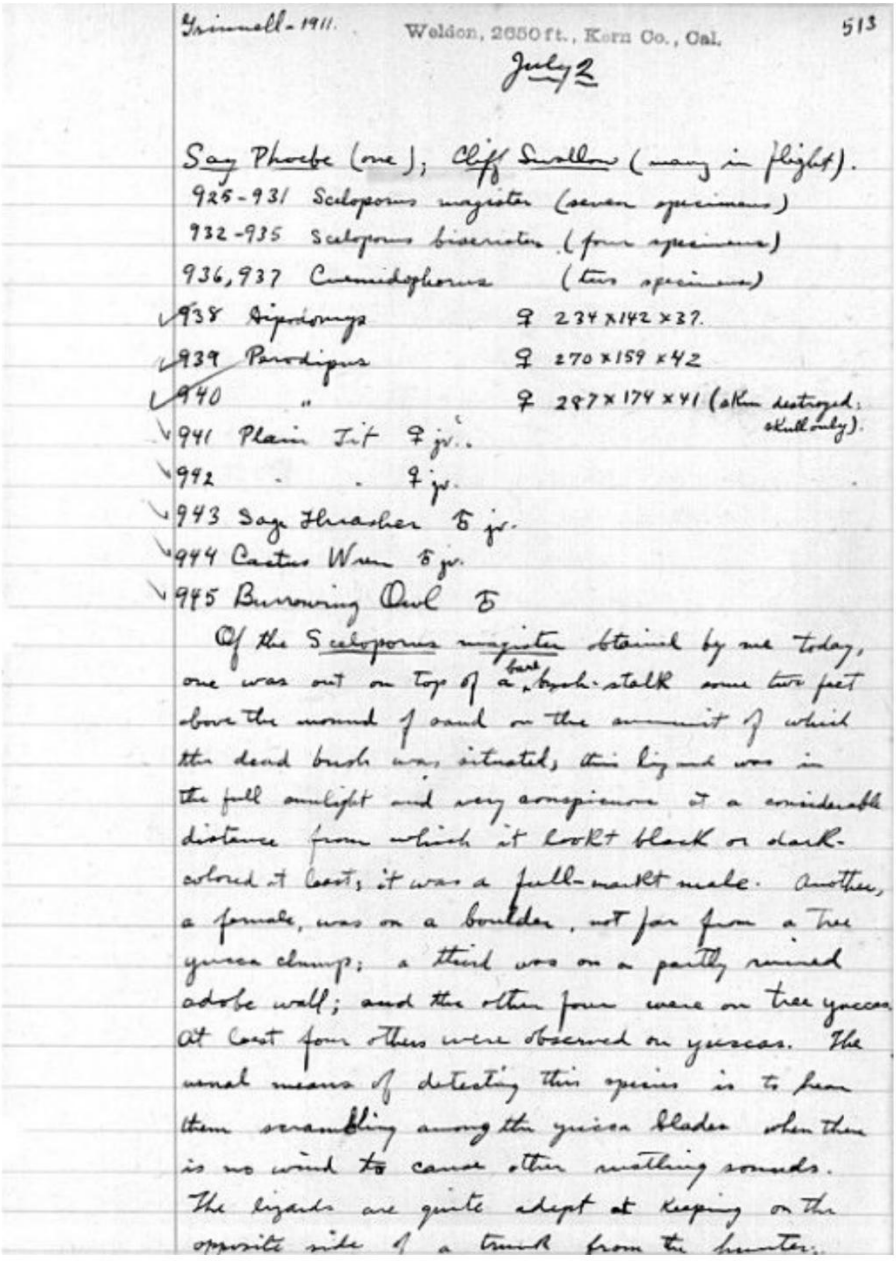
Grinnell's field notes have been preserved and made available for study by the Museum of Vertebrate Zoology at the University of California at Berkeley. Scholar Cathryn Carson has examined them closely and notes an interesting change over time.[2] She observes that when Grinnell first established his method, he followed it fairly rigorously. Over the years, however, his notes became more relaxed to include extensive subjective descriptions and wide-ranging observations. As a mature scientist, Grinnell came to believe that it was impossible to know in advance what would be important to science in the future, and his later notes reflect this. Though he always required his assistants to adhere strictly to the note-taking system he developed, in later years he expanded the system to require extra notebook pages for capturing seemingly unimportant observations. In other words, his technique was this: use a set of categories to look thoroughly for certain kinds of things; then, write down everything else you see, just in case. He had good foresight: today, scientists are examining the notes of Grinnell and his associates for clues about contemporary climate change—something Grinnell could not have anticipated.

Observation strategies are *heuristics*—rules of thumb to be applied when they are useful and set aside when they are not. Like observers of scientific phenomena, connoisseurs of art understand this well. Janos Scholz was a renowned twentieth-century cellist who was almost as famous an art collector as he was a musician. Much of his collection of Italian drawings can now be found at the Morgan Library in New York City, and most of the rest of his vast collection of photographs, prints, and drawings is scattered across well-known museums in the United States. Known for his connoisseur's eye, Scholz wrote about how to observe quality in an artwork. Like our museum guide, Scholz emphasized the use of categories, writing: "Experience will teach the connoisseur to establish a routine for examining various components, like spontaneity of line, imitation of substance, the sensation of visual depth … ." But he urges that equally important is "breaking the eye," "[L]ook always at everything, everywhere! This is a cardinal rule, basic and sacred for the connoisseur-curator."[3] Scholz's approach is similar to Grinnell's: use categories to look carefully for certain sorts of features, then go beyond them to notice everything, everywhere.

Of course it is impossible to see "everything, everywhere" in any objective sense. But what the stories of Scholz and Grinnell illustrate is that good

observers try to notice as much as they can, in any way they can. Sholz's advice to see "everything, everywhere" captures the spirit of a second broad observation strategy used almost as widely as categories: the making of *open inventories*.

An inventory is an itemized list that aims to record every item of a certain kind or in a certain location. Naturalists take inventories of flora and fauna; businesses take inventories of merchandise. Encyclopedias are a kind of inventory, because they aim to comprehensively represent all aspects or instances of a particular kind of thing. Encyclopedic inventories can be narrow in scope, such as a count of owl species in a limited area or an encyclopedia of chess moves. They can also be dazzlingly broad, as in the Encyclopedia of Life, an online initiative with the goal of creating a digital inventory of all the life forms on Earth.[4] Often the entries in an encyclopedia fall easily into a single category (chess openings, life forms). But sometimes they don't, and it is this latter sort of inventory that the term open inventory is meant to capture. Consider the *Encyclopedia Britannica*, which originally aimed to represent the entire range of human knowledge. In the print edition (although not the online version) the entries are arranged alphabetically. This provides an aura of orderliness, but the alphabet is simply a convenient container for wildly heterogeneous content. Open to the "R" pages and you can find entries under Rutabaga, Religion, and Roman road systems.


Grinnell-1911. Weldon, 2650 ft., Kern Co., Cal. 513

July 2

Say Phoebe (one); Cliff Swallow (many in flight).
925-931 Sceloporus magister (seven specimens)
932-935 Sceloporus biseriatus (four specimens)
936, 937 Cnemidophorus (two specimens)
938 Dipodomys ♀ 234×142×37.
939 Perodipus ♀ 270×159×42
940 " ♀ 287×174×41 (skin destroyed; skull only).
941 Plain Tit ♀ jr.
992 " ♀ jr.
943 Sage Thrasher ♂ jr.
944 Cactus Wren ♂ jr.
945 Burrowing Owl ♂

Of the Sceloporus magister obtained by me today, one was out on top of a bare brush-stalk some two feet above the mound of sand on the summit of which the dead brush was situated, this lizard was in the full sunlight and very conspicuous at a considerable distance from which it looked black or dark-colored at best; it was a full-market male. Another, a female, was on a boulder, not far from a Tree yucca clump; a third was on a partly ruined adobe wall; and the other four were on tree yuccas. At least four others were observed on yuccas. The usual means of detecting this species is to hear them scrambling among the yucca blades when there is no wind to cause other rustling sounds. The lizards are quite adept at keeping on the opposite side of a trunk from the hunter.

*Figure 2.1* Page from Joseph Grinnell Field Notes, July 2, 1911.

With the permission of The Museum of Vertebrate Zoology, University of California, Berkeley.

As an observation strategy, open inventorying eschews categories in favor of

taking encyclopedic-like stock of all observable features. Its purpose is to capture the rich, often category-defying jumble of features that make up a whole, and it cultivates a different kind of discriminating perception than the use of categories. Categories help us make perceptual discriminations by directing our attention to certain characteristics of a feature that make it part of a set—the way a circle is part of the set of shapes in a painting, for example. Compiling an open inventory of features draws our attention to the particularity of each individual feature itself, and ultimately to the complex coalescence of disparate features into a larger whole.

What does open inventorying look like in practice? Let's return to our museum tour. After visitors have spent quite a long time with the seascape, the museum guide brings them to another painting in the gallery. The painting shows a pastoral scene of farmland and rolling hills dotted with a few farms. "This time we're going to do something different," she says. "Take a look at this painting. Let's make a list of every single thing we see." The visitors dive right in.

> "I see a house," one visitor begins.
> "I see people working in the fields."
> "I see a farm."
> "I see puffy clouds."
> "I see a warm day; people don't have coats on and it looks like they're hot."
> "I see a lot of white everywhere."
> "I see someone—a farmer?—who looks sad."
> "I see a picture frame."
> "I see a very ornate picture frame; it's gold, with lots of fancy carving."
> "I see the artist's signature at the bottom."

The list continues to grow as the visitors discern more and more features of the work. Their observations vary widely in type. Some are about the formal features of the painting (the whiteness of the clouds, the patchwork pattern of the farmland). Some are about the feel of the painting (the warmth of the sun, the sadness of a face). Some are about the story the painting seems to be telling. Some are even about the painting's frame and the artist's signature. While visitors' observations don't parse neatly into categories, the overall inventory they collectively create captures something of the complexity of the painting—

the multiple, interacting ways in which the work makes itself vivid and meaningful.

## Try This

### Looking 10 × 2

1. Look at an image or object slowly for at least 30 seconds. Let your eyes wander.
2. List 10 words or phrases about anything you notice.
3. Repeat steps 1 and 2: look again, and add 10 more words or phrases to your list.

Very important to the process of inventorying is the fact that the visitors are *describing* what they see. Description is an ongoing act of observation, not just a tidy report of a prior internal mental state. When the visitors put their observation into words, it literally helps them see the painting, because the words available to us to describe what we see give form to our perceptions. Actually, to be precise, it's not just words that shape what we see, but any form of symbolic representation. The visitors could be sketching their observations, or expressing them through gestures, or even sounds. No matter what the medium, the form in which they communicate their observations is part of the act of seeing.

This topic—the question of how our modes of communication influence what we see—is the proverbial elephant in the room for a book on slow looking. It can't be escaped: every human description is subjective, so long as it is a subject—a person—doing the describing. There are all kinds of interesting puzzles concerning the relationship between subjectivity and slow looking. Later on, in Chapters 7 and 8, we'll take a look at some of these puzzles. For now, I simply want to point to the fact that describing their observations to one another is an important part of the museum visitors' experience.

Another important feature of the visitors' experience is that their many diverse observations coalesce into a whole that is greater than the sum of its parts. The overall inventory the visitors create is *evocative* for them: it evokes a sense of the painting's richness and complexity in a way that any single observation can't, and its totality communicates a sense of immediacy and scope.

Evocativeness is the *modus operandi* of poetry, and poets frequently use inventorying as a powerful descriptive technique. Few poets love a good list as much as Walt Whitman. Here are some lines from stanza 8 of his famous poem, *Song of Myself*:

> The blab of the pave, tires of carts, sluff of boot-soles, talk of the promenaders,
> The heavy omnibus, the driver with his interrogating thumb, the clank of the shod horses on the granite floor,
> The snow-sleighs, clinking, shouted jokes, pelts of snow-balls,
> The hurrahs for popular favorites, the fury of rous'd mobs ...[5]

Whitman's inventory of a winter scene skates across categories. The incongruent juxtaposition of the "blab of the pave" and "the rumble of the crowd" and the driver's "interrogating thumb" asserts the particularity of each feature, while the profusion of perceptions as a whole conveys the complexity of a world that is jumbled but not random.

In the arts, a sense of jumbled connectedness is the yield of a good open inventory, precisely because it is so evocative and category-hopping. We can see it in the museum visitors' wide-ranging observations as well as in Whitman's lines. Articulating this sensibility in his poem *Windsor-Forest*, Alexander Pope describes the jumble of wild elements in a forest scene, and notes how they hang together,

> Not Chaos like together crush'd and bruis'd,
> But as the world, harmoniously confus'd.

Categories like order. Inventories can be beautifully, harmoniously confused. Like poets, many visual artists like harmonious jumbles, too. To choose a familiar example, the so-called "peasant scene" paintings of sixteenth-century Dutch artist Pieter Bruegel offer exuberant visual inventories of a wide sweep of activities at a single moment in village life.

Open inventories often have a collage-like quality, and artists who favor this strategy sometimes use collage as a medium. Works like *The Dove* by Romare Bearden use collage to depict a profusion of images and activities that capture the immediacy of an urban street scene. (A full-color version of this work can easily be found online. I encourage you to take a look. We will come back to this work again in Chapter 8 and spend more time with it.)

Robert Rauschenberg's series of found-object *Combines* take collage into three dimensions and feel inventory-like in the way they bring together a host of distinct elements to create a sense of immediacy. With a double use of the strategy, they communicate a sense of jumbled connectedness, and are themselves a physical instance of open inventory, comprised as they are of wildly disparate objects—a stuffed Angora goat, a tire, printed images, paint splotches, battered strips of wood.

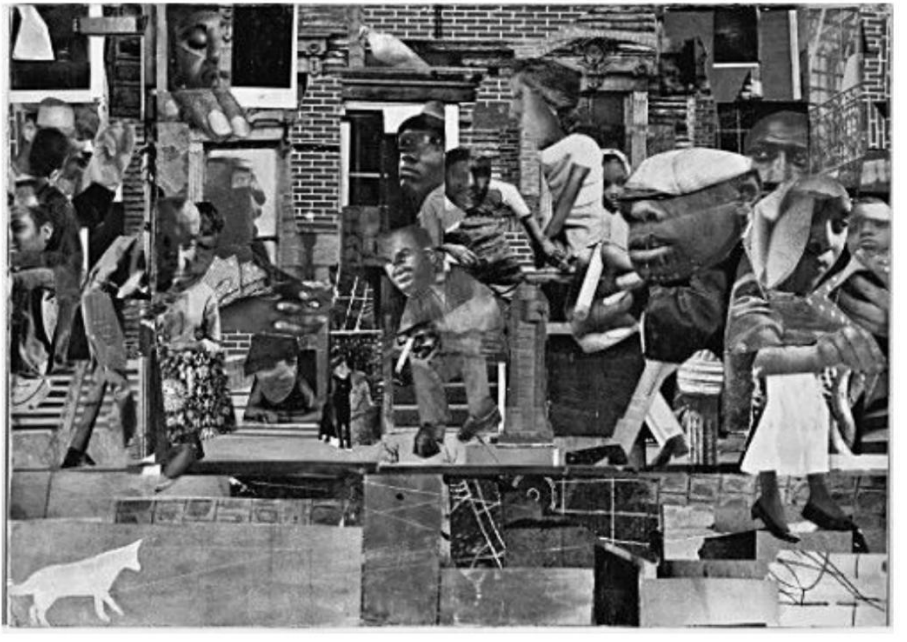


*Figure 2.2* Romare Bearden. *The Dove.* 1964.



Most of the examples in this chapter focus on visual perception, since it is the mode of observation I'm most familiar with. But the broad principles and techniques discussed here apply to other senses as well—touch, sound, smell, and even taste. This is nowhere more important thanfor the strategy of open inventory, an observation strategy that emphasizes gathering perceptions from "everything, everywhere." For example, a park ranger I know takes groups of schoolchildren into a swamp in the Everglades National Park in Florida and has them use an auditory version of the Looking 10 × 2 strategy described on the