How to Do Nothing

Resisting
the Attention
Economy

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to my students

Introduction

Surviving Usefulness

Redemption preserves itself in a small crack
in the continuum of catastrophe.
—WALTER BENJAMIN[1]

Nothing is harder to do than nothing. In a world where our value is determined by our productivity, many of us find our every last minute captured, optimized, or appropriated as a financial resource by the technologies we use daily. We submit our free time to numerical evaluation, interact with algorithmic versions of each other, and build and maintain personal brands. For some, there may be a kind of engineer's satisfaction in the streamlining and networking of our entire lived experience. And yet a certain nervous feeling, of being overstimulated and unable to sustain a train of thought, lingers. Though it can be hard to grasp before it disappears behind the screen of distraction, this feeling is in fact urgent. We still recognize that much of what gives one's life meaning stems from accidents, interruptions, and serendipitous encounters: the "off time" that a mechanistic view of experience seeks to eliminate.

Already in 1877, Robert Louis Stevenson called busyness a "symptom of deficient vitality," and observed "a sort of dead-alive, hackneyed people about, who are scarcely conscious of living except in the exercise of some conventional occupation."[2] And, after all, we only go around once. Seneca, in "On the Shortness of Life," describes the horror of looking back to see that life has slipped be-

tween our fingers. It sounds all too much like someone waking from the stupor of an hour on Facebook:

> Look back in memory and consider . . . how many have robbed you of life when you were not aware of what you were losing, how much was taken up in useless sorrow, in foolish joy, in greedy desire, in the allurements of society, how little of yourself was left to you; you will perceive that you are dying before your season![3]

On a collective level, the stakes are higher. We know that we live in complex times that demand complex thoughts and conversations—and those, in turn, demand the very time and space that is nowhere to be found. The convenience of limitless connectivity has neatly paved over the nuances of in-person conversation, cutting away so much information and context in the process. In an endless cycle where communication is stunted and time is money, there are few moments to slip away and fewer ways to find each other.

Given how poorly art survives in a system that only values the bottom line, the stakes are cultural as well. What the tastes of neoliberal techno manifest–destiny and the culture of Trump have in common is impatience with anything nuanced, poetic, or less-than-obvious. Such "nothings" cannot be tolerated because they cannot be used or appropriated, and provide no deliverables. (Seen in this context, Trump's desire to defund the National Endowment for the Arts comes as no surprise.) In the early twentieth century, the surrealist painter Giorgio de Chirico foresaw a narrowing horizon for activities as "unproductive" as observation. He wrote:

> In the face of the increasingly materialist and pragmatic orientation of our age . . . it would not be eccentric in the future to contemplate a society in which those who live for the pleasures of the mind will no longer have the right to demand their place in the sun. The writer, the thinker, the dreamer,

the poet, the metaphysician, the observer . . . he who tries to solve a riddle or to pass judgement will become an anachronistic figure, destined to disappear from the face of the earth like the ichthyosaur and the mammoth.[4]

This book is about how to hold open that place in the sun. It is a field guide to doing nothing as an act of political resistance to the attention economy, with all the stubbornness of a Chinese "nail house" blocking a major highway. I want this not only for artists and writers, but for any person who perceives life to be *more than an instrument* and therefore something that cannot be optimized. A simple refusal motivates my argument: refusal to believe that the present time and place, and the people who are here with us, are somehow not enough. Platforms such as Facebook and Instagram act like dams that capitalize on our natural interest in others and an ageless need for community, hijacking and frustrating our most innate desires, and profiting from them. Solitude, observation, and simple conviviality should be recognized not only as ends in and of themselves, but inalienable rights belonging to anyone lucky enough to be alive.

THE FACT THAT the "nothing" that I propose is only nothing from the point of view of capitalist productivity explains the irony that a book called *How to Do Nothing* is in some ways also a plan of action. I want to trace a series of movements: 1) a dropping out, not dissimilar from the "dropping out" of the 1960s; 2) a lateral movement outward to things and people that are around us; and 3) a movement downward into place. Unless we are vigilant, the current design of much of our technology will block us every step of the way, deliberately creating false targets for self-reflection, curiosity, and a desire to belong to a community. When people long for some kind of escape, it's worth asking: What would "back to the land" mean if we understood the land to be where we are right now? Could "aug-

mented reality" simply mean putting your phone down? And what (or who) is that sitting in front of you when you finally do?

It is within a blasted landscape of neoliberal determinism that this book seeks hidden springs of ambiguity and inefficiency. This is a four-course meal in the age of Soylent. But while I hope you find some relief in the invitation to simply stop or slow down, I don't mean this to be a weekend retreat or a mere treatise on creativity. The point of doing nothing, as I define it, isn't to return to work refreshed and ready to be more productive, but rather to question what we currently perceive as productive. My argument is obviously anticapitalist, especially concerning technologies that encourage a capitalist perception of time, place, self, and community. It is also environmental and historical: I propose that rerouting and deepening one's attention to place will likely lead to awareness of one's participation in history and in a more-than-human community. From either a social or ecological perspective, the ultimate goal of "doing nothing" is to wrest our focus from the attention economy and replant it in the public, physical realm.

I am not anti-technology. After all, there are forms of technology—from tools that let us observe the natural world to decentralized, noncommercial social networks—that might situate us more fully in the present. Rather, I am opposed to the way that corporate platforms buy and sell our attention, as well as to designs and uses of technology that enshrine a narrow definition of productivity and ignore the local, the carnal, and the poetic. I am concerned about the effects of current social media on expression—including the right not to express oneself—and its deliberately addictive features. But the villain here is not necessarily the Internet, or even the idea of social media; it is the invasive logic of *commercial* social media and its financial incentive to keep us in a profitable state of anxiety, envy, and distraction. It is furthermore the cult of individuality and personal branding that grow out of such platforms and affect the way we think about our offline selves and the places where we actually live.

GIVEN MY INSISTENCE on attending to the local and present, it's important that this book is rooted in the San Francisco Bay Area, where I grew up and where I currently live. This place is known for two things: technology companies and natural splendor. Here, you can drive directly west from venture-capitalist offices on Sand Hill Road to a redwood forest overlooking the sea, or walk out of the Facebook campus into a salt marsh full of shorebirds. When I was growing up in Cupertino, my mom would sometimes take me to her office at Hewlett-Packard, where I once tried on a very early version of a VR headset. To be sure, I spent a lot of time inside on the computer. But on other days my family would go for long hikes among the oak trees and redwoods in Big Basin, or along the cliffs at San Gregorio State Beach. In the summer, I was often away at camp in the Santa Cruz Mountains, forever learning the name *Sequoia sempervirens.*

I am an artist as well as a writer. In the early 2010s, because I used computers to make my art and maybe because I lived in San Francisco, I got shunted into the catch-all "art-and-technology" category. But my only real interest in technology was how it could give us more access to physical reality, which is where my real loyalties were. This put me in sort of an odd position, as someone who gets invited to tech conferences but who would rather be out bird-watching. It's just one of the strangely "in-between" aspects of my experience, first of all as a biracial person, and secondly as one who makes digital art about the physical world. I have been an artist in residence at such strange places as Recology SF (otherwise known as "the dump"), the San Francisco Planning Department, and the Internet Archive. All along, I've had a love-hate relationship with Silicon Valley as the source of my childhood nostalgia and the technology that created the attention economy.

Sometimes it's good to be stuck in the in-between, even if it's

uncomfortable. Many of the ideas for this book formed over years of teaching studio art and arguing its importance to design and engineering majors at Stanford, some of whom didn't see the point. The sole field trip in my digital design class is simply a hike, and sometimes I have my students sit outside and do nothing for fifteen minutes. I'm realizing that these are my ways of insisting on something. Living between the mountains and this hyper accelerated, entrepreneurial culture, I can't help but ask the question: What does it mean to construct digital worlds while the actual world is crumbling before our eyes?

The odd activities of my class also come from a place of concern. Among my students and in many of the people I know, I see so much energy, so much intensity, and so much anxiety. I see people caught up not just in notifications but in a mythology of productivity and progress, unable not only to rest but simply to see where they are. And during the summer that I wrote this, I saw a catastrophic wildfire without end. This place, just as much as the place where you are now, is calling out to be heard. I think we should listen.

LET'S START IN the hills overlooking Oakland, the city where I currently live. Oakland has two famous trees: first is the Jack London Tree, a gigantic coast live oak in front of City Hall, from which the city gets its tree-shaped logo. The other, which is hidden among the hills, is not as well known. Nicknamed the "Grandfather" or "Old Survivor," it's Oakland's only old-growth redwood left standing, a miraculous five-hundred-year-old holdover from the time before all of the ancient redwoods were logged following the Gold Rush. Though much of the East Bay Hills are covered in redwoods, they are all second growth, sprouted from the stumps of ancestors that at one point were some of the largest on the entire coast. Before 1969, people in Oakland assumed that all of the old-growth trees were gone, until a naturalist happened upon Old Survivor towering over the other trees. Since then, the ancient tree has figured in the

collective imagination, prompting articles, group hikes, and even a documentary.

Before they were logged, the old-growth redwoods of the East Bay Hills also included the Navigation Trees, redwoods that were so tall that sailors in the San Francisco Bay used them to steer clear of the submerged and dangerous Blossom Rock. (When the trees were logged, the Army Corp of Engineers had to literally blow up Blossom Rock.) Though it wasn't one of those trees, I like to think of Old Survivor as its own kind of navigational aid. This wizened tree has a few lessons to teach us that correspond to the course I will try to chart throughout this book.

The first lesson is about resistance. Old Survivor's somewhat legendary status has to do not only with its age and unlikely survival, but its mysterious location. Even those who grew up hiking in the East Bay Hills can have a hard time finding it. When you do spot Old Survivor, you still can't get that close, because it sits on a steep rocky slope whose ascent would require a serious scramble. That's one reason it survived logging; the other reason has to do with its twisted shape and its height: ninety-three feet, a runt compared to other old-growth redwoods. In other words, Old Survivor survived largely by appearing useless to loggers as a timber tree.

To me, this sounds like a real-life version of a story—the title of which is often translated as "The Useless Tree"—from the *Zhuangzi*, a collection of writings attributed to Zhuang Zhou, a fourth-century Chinese philosopher. The story is about a carpenter who sees a tree (in one version, a serrate oak, a similar-looking relative to our coast live oak) of impressive size and age. But the carpenter passes it right by, declaring it a "worthless tree" that has only gotten to be this old because its gnarled branches would not be good for timber. Soon afterward, the tree appears to him in a dream and asks, "Are you comparing me with those useful trees?" The tree points out to him that fruit trees and timber trees are regularly ravaged. Meanwhile, uselessness has been this tree's strategy: "This is of great use to me. If I had been of some use, would I ever have grown this large?"

The tree balks at the distinction between usefulness and worth, made by a man who only sees trees as potential timber: "What's the point of this—things condemning things? You a worthless man about to die—how do you know I'm a worthless tree?"[5] It's easy for me to imagine these words being spoken by Old Survivor to the nineteenth-century loggers who casually passed it over, less than a century before we began realizing what we'd lost.

This formulation—the usefulness of uselessness—is typical of Zhuang Zhou, who often spoke in apparent contradictions and non sequiturs. But like his other statements, it's not a paradox for the sake of being a paradox: rather, it's merely an observation of a social world that is itself a paradox, defined by hypocrisy, ignorance, and illogic. In a society like that, a man attempting a humble and ethical life would certainly appear "backward": for him, good would be bad, up would be down, productivity would be destruction, and indeed, uselessness would be useful.

If you'll allow me to stretch this metaphor, we could say that Old Survivor was *too weird* or *too difficult* to proceed easily toward the sawmill. In that way, the tree provides me with an image of "resistance-in-place." To resist in place is to make oneself into a shape that cannot so easily be appropriated by a capitalist value system. To do this means refusing the frame of reference: in this case, a frame of reference in which value is determined by productivity, the strength of one's career, and individual entrepreneurship. It means embracing and trying to inhabit somewhat fuzzier or blobbier ideas: of maintenance as productivity, of the importance of nonverbal communication, and of the mere experience of life as the highest goal. It means recognizing and celebrating a form of the self that changes over time, exceeds algorithmic description, and whose identity doesn't always stop at the boundary of the individual.

In an environment completely geared toward capitalist appropriation of even our smallest thoughts, doing this isn't any less uncomfortable than wearing the wrong outfit to a place with a

dress code. As I'll show in various examples of past refusals-in-place, to remain in this state takes commitment, discipline, and will. Doing nothing is *hard*.

THE OTHER LESSON that Old Survivor offers us has to do with its function as witness and memorial. Even the most stalwart materialist must admit that Old Survivor is different from a man-made monument because it is, after all, *alive*. In a 2011 issue of a community newspaper called *MacArthur Metro*, the late Gordon Laverty, then a retired East Bay Municipal Utility District worker, and his son Larry, wrote a paean to Old Survivor: "There's a fella who lives high up on a slope in nearby Leona Park who's been a witness to our madness here for as long as people have been in Oakland. His name is Old Survivor. He's a redwood tree and he's old." They frame the tree as a witness to history, from the hunting and gathering of the Ohlone people, to the arrival of the Spanish and the Mexicans, to the white profiteers. The tree's viewpoint—unchanging vis-à-vis the many successive follies of newcomers—ultimately makes it a moral symbol for the Lavertys: "Old Survivor still stands . . . as a sentinel to remind us to make our choices wisely."[6]

I see him the same way. Old Survivor is above all a physical fact, a wordless testament to a very real past, both natural and cultural. To look at the tree is to look at something that began growing in the midst of a very different, even unrecognizable world: one where human inhabitants preserved the local balance of life rather than destroying it, where the shape of the coastline was not yet changed, where there were grizzly bears, California condors, and Coho salmon (all of which disappeared from the East Bay in the nineteenth century). This is not the stuff of fable. Indeed, it wasn't even that long ago. Just as surely as the needles that grow from Old Survivor are connected to its ancient roots, the present grows out of the past. This rootedness is something we desperately need when

we find ourselves awash in an amnesiac present and the chain-store aesthetic of the virtual.

These two lessons should give you a sense of where I'm headed in this book. The first half of "doing nothing" is about disengaging from the attention economy; the other half is about reengaging with something else. That "something else" is nothing less than time and space, a possibility only once we meet each other there on the level of attention. Ultimately, against the placelessness of an optimized life spent online, I want to argue for a new "placefulness" that yields sensitivity and responsibility to the historical (what happened here) and the ecological (who and what lives, or lived, here).

In this book, I hold up bioregionalism as a model for how we might begin to think again about place. Bioregionalism, whose tenets were articulated by the environmentalist Peter Berg in the 1970s, and which is widely visible in indigenous land practices, has to do with an awareness not only of the many life-forms of each place, but how they are interrelated, including with humans. Bioregionalist thought encompasses practices like habitat restoration and permaculture farming, but has a cultural element as well, since it asks us to identify as citizens of the bioregion as much as (if not more than) the state. Our "citizenship" in a bioregion means not only familiarity with the local ecology but a commitment to stewarding it together.

It's important for me to link my critique of the attention economy to the promise of bioregional awareness because I believe that capitalism, colonialist thinking, loneliness, and an abusive stance toward the environment all coproduce one another. It's also important because of the parallels between what the economy does to an ecological system and what the attention economy does to our attention. In both cases, there's a tendency toward an aggressive monoculture, where those components that are seen as "not useful" and which cannot be appropriated (by loggers or by Facebook) are the first to go. Because it proceeds from a false understanding of life as atomized and optimizable, this view of usefulness fails to

recognize the ecosystem as a living whole that in fact needs all of its parts to function. Just as practices like logging and large-scale farming decimate the land, an overemphasis on performance turns what was once a dense and thriving landscape of individual and communal thought into a Monsanto farm whose "production" slowly destroys the soil until nothing more can grow. As it extinguishes one species of thought after another, it hastens the erosion of attention.

Why is it that the modern idea of productivity is so often a frame for what is actually the *destruction* of the natural productivity of an ecosystem? This sounds a lot like the paradox in Zhuang Zhou's story, which more than anything is a joke about how narrow the concept of "usefulness" is. When the tree appears to the carpenter in his dream, it's essentially asking him: Useful for what? Indeed, this is the same question I have when I give myself enough time to step back from the capitalist logic of how we currently understand productivity and success. Productivity that produces what? Successful in what way, and for whom? The happiest, most fulfilled moments of my life have been when I was completely aware of being alive, with all the hope, pain, and sorrow that that entails for any mortal being. In those moments, the idea of success as a teleological goal would have made no sense; the moments were ends in themselves, not steps on a ladder. I think people in Zhuang Zhou's time knew the same feeling.

There's an important detail at the beginning of the useless tree story. Multiple versions of it mention that the gnarled oak tree was so large and wide that it should shade "several thousand oxen" or even "thousands of teams of horses." The shape of the useless tree does more than just protect it from the carpenter; it is also the shape of care, of branching out over the thousands of animals who seek shelter, thus providing the grounds for life itself. I want to imagine a whole forest of useless trees, branches densely interwoven, providing an impenetrable habitat for birds, snakes, lizards, squirrels, insects, fungi, and lichen. And eventually,

through this generous, shaded, and useless environment might come a weary traveler from the land of usefulness, a carpenter who has laid down his tools. Maybe after a bit of dazed wandering, he might take a cue from the animals and have a seat beneath an oak tree. Maybe, for the first time ever, he'd take a nap.

LIKE OLD SURVIVOR, you'll find that this book is a bit oddly shaped. The arguments and observations I'll make here are not neat, interlocking parts in a logical whole. Rather, I saw and experienced many things during the course of writing it—things that changed my mind and then changed it again, and which I folded in as I went. I came out of this book different than I went in. So, consider this not a closed transmission of information, but instead an open and extended essay, in the original sense of the word (a journey, an essaying forth). It's less a lecture than an invitation to take a walk.

The first chapter of this book is a version of an essay I wrote in the spring following the 2016 election, about a personal state of crisis that led me to the necessity of doing nothing. In that chapter I begin to identify some of my most serious grievances with the attention economy, namely its reliance on fear and anxiety, and its concomitant logic that "disruption" is more productive than the work of maintenance—of keeping ourselves and others alive and well. Written in the midst of an online environment in which I could no longer make sense of anything, the essay was a plea on behalf of the spatially and temporally embedded human animal; like the technology writer Jaron Lanier, I sought to "double down on being human."

One reaction to all of this is to head for the hills—permanently. In the second chapter, I look at a few different people and groups who took this approach. The countercultural communes of the 1960s in particular have much to teach us about the challenges inherent in trying to extricate oneself completely from the fabric of a capitalist reality, as well as what was sometimes an ill-fated attempt

to escape politics altogether. This is the beginning of an ongoing distinction I'll make between 1) escaping "the world" (or even just other people) entirely and 2) remaining in place while escaping the framework of the attention economy and an over-reliance on a filtered public opinion.

This distinction also forms the basis for the idea of refusal-in-place, the subject of my third chapter. Taking a cue from Herman Melville's "Bartleby, the Scrivener," who answers not "I will not" but "I would prefer not to," I look to the history of refusal for responses that protest the terms of the question itself. And I try to show how that creative space of refusal is threatened in a time of widespread economic precarity, when everyone from Amazon workers to college students see their margin of refusal shrinking, and the stakes for playing along growing. Thinking about what it takes to *afford* refusal, I suggest that learning to redirect and enlarge our attention may be the place to pry open the endless cycle between frightened, captive attention and economic insecurity.

Chapter 4 comes mainly from my experience as an artist and art educator long interested in how art can teach us new scales and tones of attention. I look both to art history and to vision studies to think about the relationship between attention and volition—how we might not only disentangle ourselves from the attention economy but learn to wield attention in a more intentional way. This chapter is also based on my personal experience learning about my bioregion for the first time, a new pattern of attention applied to the place I've lived in my entire life.

If we can use attention to inhabit a new plane of reality, it follows that we might meet each other there by paying attention to the same things and to each other. In Chapter 5, I examine and try to dissolve the limits that the "filter bubble" has placed on how we view the people around us. Then I'll ask you to stretch it even further, extending the same attention to the more-than-human world. Ultimately, I argue for a view of the self and of identity that is the opposite of the personal brand: an unstable, shapeshifting thing deter-

mined by interactions with others and with different kinds of places.

In the last chapter, I try to imagine a utopian social network that could somehow hold all of this. I use the lens of the human bodily need for spatial and temporal context to understand the violence of "context collapse" online and propose a kind of "context collection" in its place. Understanding that meaningful ideas require incubation time and space, I look both to noncommercial decentralized networks and the continued importance of private communication and in-person meetings. I suggest that we withdraw our attention and use it instead to restore the biological and cultural ecosystems where we forge meaningful identities, both individual and collective.

DURING THE SUMMER that I spent nearly every day writing this book, some friends joked about how I was working so hard on something called *How to Do Nothing*. But the real irony is that in writing something by this title, I inadvertently radicalized myself by learning the importance of *doing something*. In my capacity as an artist, I have always thought about attention, but it's only now that I fully understand where a life of sustained attention leads. In short, it leads to awareness, not only of how lucky I am to be alive, but to ongoing patterns of cultural and ecological devastation around me—and the inescapable part that I play in it, should I choose to recognize it or not. In other words, simple awareness is the seed of responsibility.

At some point, I began to think of this as an activist book disguised as a self-help book. I'm not sure that it's fully either. But as much as I hope this book has something to offer you, I also hope it has something to contribute to activism, mostly by providing a rest stop for those on their way to fight the good fight. I hope that the figure of "doing nothing" in opposition to a productivity-obsessed environment can help restore individuals who can then help restore communities, human and beyond. And most of all, I hope it can help people find ways of connecting that are substan-

tive, sustaining, and absolutely unprofitable to corporations, whose metrics and algorithms have never belonged in the conversations we have about our thoughts, our feelings, and our survival.

One thing I have learned about attention is that certain forms of it are contagious. When you spend enough time with someone who pays close attention to something (if you were hanging out with me, it would be birds), you inevitably start to pay attention to some of the same things. I've also learned that patterns of attention—what we choose to notice and what we do not—are how we render reality for ourselves, and thus have a direct bearing on what we feel is possible at any given time. These aspects, taken together, suggest to me the revolutionary potential of taking back our attention. To capitalist logic, which thrives on myopia and dissatisfaction, there may indeed be something dangerous about something as pedestrian as doing nothing: escaping laterally toward each other, we might just find that everything we wanted is already here.

economy takes for granted is the quality of attention, because like all modern capitalist systems, it imagines its currency as uniform and interchangeable. "Units" of attention are assumed undifferentiated and uncritical. To give a particularly bleak yet useful example, if I'm forced to watch an ad, the company doesn't necessarily know *how* I am watching the ad. I may indeed be watching it very carefully, but like a practitioner of aikido who seeks to better understand her enemy—or for that matter, like Thomas Merton observing the corruption of the world from his hermitage. My "participation" may be disingenuous, like Diogenes rolling his barrel industriously up and down the hill to appear productive. As a precursor to action, these drills and formations of attention within the mind represent a primary space of volition. Tehching Hsieh referred to these kinds of tactics when, speaking of the year he spent in a cage, he said that nonetheless his "mind was not in jail."[66]

Of course, attention has its own margins. As I noted earlier, there is a significant portion of people for whom the project of day-to-day survival leaves no attention for anything else; that's part of the vicious cycle too. This is why it's even more important for anyone who *does* have a margin—even the tiniest one—to put it to use in opening up margins further down the line. Tiny spaces can open up small spaces, small spaces can open bigger spaces. If you can afford to pay a different kind of attention, you should.

But besides showing us a possible way out of a bind, the process of training one's own attention has something else to recommend it. If it's attention (deciding what to pay attention to) that makes our reality, regaining control of it can also mean the discovery of new worlds and new ways of moving through them. As I'll show in the next chapter, this process enriches not only our capacity to resist, but even more simply, our access to the one life we are given. It can open doors where we didn't see any, creating landscapes in new dimensions that we can eventually inhabit with others. In so doing, we not only remake the world but are ourselves remade.

Chapter 4

Exercises in Attention

In Zen they say: If something is boring after two minutes, try it for four. If still boring, then eight. Then sixteen. Then thirty-two. Eventually one discovers that it is not boring at all.

—JOHN CAGE[1]

There's a funny detail about Cupertino that I discovered as a teenager. Growing up there in the early 2000s, there wasn't much to do except visit one shopping center after another in what I experienced as a mind-numbing sprawl with no obvious center. The one I ended up at the most often was called Cupertino Crossroads, and it sat at the intersection of two six-lane roads with a stupefyingly long traffic light. Cupertino Crossroads contained the usual retail suspects at the time: Whole Foods, Mervyn's, Aaron Brothers, Jamba Juice, Noah's Bagels. The funny detail was this: the location of the shopping center was actually of some historical importance. It had once been a "crossroads" that included Cupertino's first post office, general store, and blacksmith. No sign of them remained, however. It was actually unclear whether the name of the shopping center referenced this site or whether it was a coincidence. I remember finding either option equally depressing.

People usually associate Cupertino with Apple, which was founded there and which recently inaugurated a new, futuristic-looking campus not too far from Cupertino Crossroads. While it's true that Cupertino is a city with a reality like any other place, it felt

to me like the technology it produced—something that existed outside of space and time. We barely had seasons, and instead of landmarks we had office parks (where my parents worked), manicured trees, and ample parking. No one I met seemed to particularly identify with Cupertino more than any other place, because, I thought, there simply wasn't anything to identify with. There wasn't even a clear beginning or ending in Cupertino; instead, like Los Angeles, you simply kept driving until at some arbitrary point you were now in Campbell, now in Los Gatos, now in Saratoga. In excess of normal teenage angst, I was desperate for something (anything!) to latch onto, to be interested in. But Cupertino was featureless. It's perhaps telling that when I meet other people who grew up in Cupertino, the one thing we have to bond over is an empty husk of consumer culture: Vallco Fashion Park, a defunct and almost entirely empty nineties-era mall.

What I lacked was context: anything to tie my experience to this place and not that place, this time and not that time. I might as well have been living in a simulation. But now I see that I was looking at Cupertino all wrong.

IN 2015 I was asked to give a lecture on David Hockney to docents at the de Young Museum in San Francisco. The pretext was that they were showing his digital video piece, *Seven Yorkshire Landscapes*; as someone who worked in digital art, I was expected to provide some perspective. But I wasn't sure if I would have anything to say. Hockney was not only a painter, but really a painter's painter. Like most people, I associated him with his flat, supersaturated Los Angeles scenes—like the 1967 painting *A Bigger Splash*, of a pool, diving board, and peach-colored California bungalow. But as soon as I started researching his evolving interest in technology—not just media but technologies of seeing—I realized I might have more to learn from Hockney than from any other artist.

Hockney valued painting because of the medium's relationship

to time. According to him, an image contained the amount of time that went into making it, so that when someone looked at one of his paintings, they began to inhabit the physical, bodily time of its being painted. It's no surprise, then, that Hockney initially disdained photography. Although he sometimes used it in studies for paintings, he found a snapshot's relationship to time unrealistic: "Photography is alright if you don't mind looking at the world from the point of view of a paralyzed cyclops—for a split second," he said. "But that's not what it's like to live in the world, or to convey the experience of living in the world."[2]

In 1982, a curator from the Centre Pompidou museum came to Hockney's LA house to document some of his paintings with a Polaroid camera and happened to leave behind some blank Polaroid film. Hockney's curiosity got the better of him, and he started walking through his house taking photos in every direction. Developing a technique he would use for years afterward, he joined the photos into a grid whose overall effect is like that of a disjointed fish-eye lens—photos pointing forward are in the center, photos pointing to the left are on the left, etc. Lawrence Weschler contrasts these early pieces with Eadweard Muybridge's grids of photographic motion studies, in which the grid functions as a sequence, like a comic strip. Hockney's grids contain no such sequence. Instead, Weschler writes, the grids depict "the experience of looking as it transpires across time."[3]

In *Gregory in the Pool*, a landscape-orientation grid of photographs of a single swimming pool, Hockney's friend Gregory (or some part of him) appears in almost all of the squares, always in a different position. More than anything, he appears to be swimming through time. When Hockney used this technique for seated portraits, the grid had an even narrower field of focus but the same roving eye: a shoe or a face might appear twice (once from the front, once from the side). Hockney's subjects were recognizable but discontinuous. In that sense, Hockney was trying to use a camera to undo the very essence of how we traditionally understand photography, which is

a static framing of certain elements in an instant of time. More specifically, Hockney was after the phenomenology of seeing:

> From that first day, I was exhilarated . . . I realized that this sort of picture came closer to how we actually see, which is to say, not all at once but rather in discrete, separate glimpses, which we then build up into our continuous experience of the world . . . There are a hundred separate looks across time from which I synthesize my living impression of you. And this is wonderful.[4]

In this pursuit of a "living impression," Hockney took influence from Picasso and cubism in general. He referred to paintings such as Picasso's 1923 *Portrait of Woman in D'Hermine Pass*—in which we appear to see a woman's face from the side but can somehow see the other eye that should be hidden from us, as well as several possible noses—saying that there was actually nothing distorted in such a scene. To him, cubism was quite simple: three noses meant you looked at it three times.[5] This comment attests to his preoccupation not just with the subject of depiction but with the relationship between representation and perception. Comparing Jean-Antoine Watteau's fairly straightforward painting *The Intimate Toilet* to Picasso's *Femme Couchée*—both being intimate interior scenes of a woman—Hockney said that the viewer in the Watteau picture is an alienated voyeur who may as well be looking through a keyhole. In the Picasso painting, however, we are in the room with her. For Hockney, this made the Picasso piece the more realistic of the two, since "[w]e do not look at the world from a distance; we are in it, and that's how we feel."[6]

Though he was using a camera, Hockney did not consider his cubist representations of people and moments to be photographs. Instead he considered what he was doing to be closer to drawing; indeed, he compared his discovery to only using pencils to draw dots and then finding out that you can draw lines. These "lines" evoked movements

of the eye as it takes in a scene, and they're especially evident once Hockney forewent the grid altogether. In *The Scrabble Game, Jan. 1, 1983*, the photos sprawl out unpredictably from the Scrabble board, overlapping in a way that inadvertently evokes the photo-merging capabilities of Photoshop as much as it does the organic growth of a Scrabble game. Following one trajectory we find one player's several facial reactions (serious, laughing, about to speak); following another, we see a woman's face from several angles, resting on her hands in different pensive moments; on the other side, a lazing cat uncovers its face and becomes interested in the game; and looking downward we see the hand of the photographer, which appears to be our own, resting next to the letters we have yet to play.

The most famous of these "joiners," as Hockney called them, is *Pearblossom Highway, 11th–18th April 1986*. As the title makes clear, it took Hockney eight days to make the hundreds of photographs, and he would later take an additional two weeks to assemble them. From far away, the general composition looks like a familiar landscape, but we soon notice that the STOP AHEAD letters on the road balloon toward us in an odd way. Bits of roadside refuse seem out of proportion; the Joshua trees that are far away are somehow as detailed as the ones that are close to us.

These disjunctures and discrepancies in size undermine any sense of continuity or *punctum*. Without the familiar framework of a consistent vanishing point, the eye roams across the scene, dwelling in small details and trying to add it all up. This process forces us to notice our own "construction" of every scene that we perceive as living beings in a living world. In other words, the piece is a collage not so much because Hockney had an aesthetic fondness for collage, but because something like collage is at the heart of the unstable and highly personal process of perception.

Hockney once called *Pearblossom Highway* "a panoramic assault on Renaissance one-point perspective."[7] One-point perspective was worth assaulting because, as the opposite of something like cubism, it was associated with a way of seeing that Hockney didn't like. In a

2015 lecture at the Getty Museum in Los Angeles, Hockney showed a Chinese scroll painting as an example of a way of seeing he was more interested in. The scroll was so long that what he showed was actually a tracking shot, a journey across a multifarious scene that is less an image than a collection of small moments: people lining up to enter a temple, people crossing a river in a small boat, people conversing under a tree. Behind them, the land recedes, but to no particular point. The scroll's narrative is excessive, open, and without direction. It recalls the text from a tourist plaque in Zion Canyon that forms the center of one of Hockney's sprawling photo collages. The plaque reads: YOU MAKE THE PICTURE.

In 2012, after experimenting with early Macintosh computers, fax machines, and the earliest version of Photoshop, Hockney found yet another way to "make the picture." He mounted twelve cameras to the side of a car and drove slowly down different country roads in Yorkshire, near where he grew up. Each piece in *Seven Yorkshire Landscapes* is displayed as a three-by-six grid of screens displayed edge to edge. Because the field of view and zoom level of each camera is intentionally misaligned, the effect is like that of a kaleidoscopic, almost hallucinatory Google Street View. Like *Pearblossom Highway*, the slight disconnection between individual "pictures" tricks our eyes into looking closely, suggesting that there is something to be seen in every panel—and indeed there is.

But in these video pieces, Hockney augments his usual disjointed technique with the video's ant-like pace—one more "trick" to get you to look more closely. One casual viewer's YouTube video of the work, in which young children run back and forth across the screens, pointing and jumping and stopping to stare at certain leaves, seems to bear out Hockney's description of his own project: "The composition stays the same and you just slowly go past a bush. There's so much to look at that you don't get bored. Everybody watches because there's a lot to see. There's a lot to look at." Comparing it to TV, he says that "[i]f you show the world better, it's more beautiful, a lot more beautiful. The process of looking is the beauty."

When I talked to docents at the de Young about *Seven Yorkshire Landscapes*, they mentioned something interesting. Some museumgoers who had seen the piece came back to tell them that afterward everything outside had looked different from what they were used to. Specifically, the de Young is not far from the San Francisco Botanical Garden, and those who visited it directly afterward found that Hockney's piece had trained them to look a certain way—a notably slow, broken-up luxuriating in textures. They saw the garden anew, in all its kaleidoscopic beauty.

Hockney, who defines looking as a "positive act," would have been pleased. For him, actual looking was a skill and a conscious decision that people rarely practiced; there was "a lot to see" only if you were willing and able to see it.[8] In this sense, what Hockney and countless other artists offer is a kind of attentional prosthesis. Such an offering assumes that the familiar and proximate environment is as deserving of this attention, if not more, than those hallowed objects we view in a museum.

I HAVE NO trouble believing the accounts of these museumgoers because, a few years prior, I'd had a very similar experience—with sound instead of sight. It was at San Francisco's Davies Symphony Hall, which I would occasionally visit alone after work for the comfort of old favorite pieces, an overpriced plastic cup of wine, and anonymity among an older crowd. This particular night, I had come to see the symphony perform pieces from John Cage's *Song Books*. Cage is most famous for *4'33"*, a three-movement piece in which a pianist plays nothing. While that piece often gets written off as a conceptual art stunt, it's actually quite profound: each time it's performed, the ambient sound, including coughs, uncomfortable laughter, and chair scrapes, is what makes up the piece. This approach is not that different from Eleanor Coppola's in her *Windows* piece, but with sound instead of visual activity.

At the time, I was somewhat familiar with Cage and his philos-

ophy that "everything we hear is music"; I had seen the interview where he sits by an apartment window, rapt at the sound of traffic outside. In my class, I sometimes show a video of him performing *Water Walk* on the 1960s TV show *I've Got a Secret*, where the audience grows mystified and then titillated as he waters plants in a tub, bonks a piano, and squeezes a rubber ducky. I knew that his pieces were procedural, full of chance operations, so I was not surprised that in the section of the liner notes that lists duration, it simply said it would last "anywhere from 15 to 45 minutes, depending on what happens."

But I had never experienced a live performance of a Cage piece, much less in a traditional symphony setting with the usual crowd. Instead of the customary rows of musicians dressed in all black, the people onstage were dressed in plain clothes, moving about various props and devices like a typewriter, a set of cards, or a blender. Three vocalists made strange and haunting sounds while someone shuffled cards into a microphone and another walked into the audience to give someone a present—all, in some way, part of the score. As I imagine is the case at many Cage performances, the audience seemed to be shifting in their seats, trying very hard not to laugh, which would be inappropriate in a symphony hall. But the breaking point came when Michael Tilson Thomas, the conductor of the San Francisco Symphony, used the blender to make a smoothie. He took a sip and appeared satisfied. After that, all bets were off, with laughter tumbling down from the seats toward the stage and integrating itself into the piece.

More than just the conventions of the symphony hall were broken open that night. I walked out of the symphony hall down Grove Street to catch the MUNI, and heard every sound with a new clarity—the cars, the footsteps, the wind, the electric buses. Actually, it wasn't so much that I heard these clearly as that I heard them *at all*. How was it, I wondered, that I could have lived in a city for four years already—even having walked down this street after a symphony performance so many times—and never have actually heard anything?

For months after this, I was a different person. At times, it was enough to make me laugh out loud. I started to act a lot like the protagonist of a movie I had seen on accident a year earlier. The film is called *The Exchange*, by Eran Kolirin, and to be honest, it doesn't have much of a plot. A PhD student forgets something at home, goes back to get it, and finds that his apartment looks unfamiliar at that particular time of the day. (I'm convinced that many of us have had this experience as a child, coming home sick from school in the middle of the day and finding that our home feels strange.) Critically unmoored from the familiar, the man spends the rest of the film doing things like pushing a paperweight matter-of-factly off a coffee table, throwing a stapler out a window, standing in bushes, or lying on the floor of his apartment's basement level. In place of a man going about his business, he becomes like an alien who encounters people, objects, and the laws of physics for the first time.

I have always prized this film for its deceptive quietness; it shows how even the smallest disjuncture can suddenly throw everything into relief. Like the visitors to the Hockney piece who reported "seeing things" afterward—or like myself walking down Grove Street transfixed by sound—the film's turning point is entirely perceptual. It has to do with how endlessly strange reality is when we look *at it* rather than through it.

ANYONE WHO HAS experienced this unmooring knows that it can be equally exhilarating and disorienting. There is more than a touch of delirium in William Blake's description when he invites us "[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." This way of looking, in which we are Alice and everything is a potential rabbit hole, is potentially immobilizing; at the very least, it brings us out of step with the everyday. Indeed, the only real drama of *The Exchange* happens between the protagonist and everyone else, especially his girlfriend, to whom his actions appear insane.

So why go down the rabbit hole? First and most basically, it is enjoyable. Curiosity, something we know most of all from childhood, is a forward-driving force that derives from the differential between what is known and not known. Even morbid curiosity assumes there is something you haven't seen that you'd like to see, creating a kind of pleasant sensation of unfinished-ness and of something just around the corner. Although it's never seemed like a choice to me, I live for this feeling. Curiosity is what gets me so involved in something that I forget myself.

This leads into a second reason to leave behind the coordinates of what we habitually notice: doing so allows one to transcend the self. Practices of attention and curiosity are inherently open-ended, oriented toward something outside of ourselves. Through attention and curiosity, we can suspend our tendency toward instrumental understanding—seeing things or people one-dimensionally as the products of their functions—and instead sit with the unfathomable fact of their existence, which opens up toward us but can never be fully grasped or known.

In his 1923 book *I and Thou*, the philosopher Martin Buber draws a distinction between what he calls I-It and I-Thou ways of seeing. In I-It, the other (a thing or a person) is an "it" that exists only as an instrument or means to an end, something to be appropriated by the "I." A person who only knows I-It will never encounter anything outside himself because he does not truly "encounter." Buber writes that such a person "only knows the feverish world out there and his feverish desire to use it . . . When he says You, he means: You, my ability to use!"[9]

In contrast to I-it, I-Thou recognizes the irreducibility and absolute equality of the other. In this configuration, I meet you "thou" in your fullness by giving you my total attention; because I neither project nor "interpret" you, the world contracts into a moment of a magical exclusivity between you and me. In I-Thou, the "thou" does not need to be a person; famously, Buber gives the example of different ways of looking at a tree, all but one of which he classifies

as I-It. He can "accept it as a picture," describing its visual elements; he can consider an instance of a species, an expression of natural law, or a pure relation of numbers. "Throughout all of this the tree remains my object and has its place and its time span, its kind and condition," he says. But then there is the I-Thou option: "it can also happen, if will and grace are joined, that as I contemplate the tree I am drawn into a relation, and the tree ceases to be an It. The power of exclusiveness has seized me."[10]

Here, we encounter the tree in all its otherness, a recognition that draws us out of ourselves and out of a worldview in which everything exists for us. The tree exists *out there*: "The tree is no impression, no play of my imagination, no aspect of a mood; it confronts me bodily and has to deal with me as I deal with it—only differently. One should not try to dilute the meaning of the relation: relation is reciprocity." (In his translation from the German, Walter Kaufmann notes that "it confronts me bodily" uses a highly unusual verb—*leibt*, where *leib* means body—so that a more precise translation would be "it *bodies* across from me.") Does this then mean that the tree has consciousness in the way that we would understand it? For Buber, the question is misguided because it relapses into I-It thinking: "must you again divide the indivisible? What I encounter is neither the soul of a tree nor a dryad, but the tree itself."[11]

One of my favorite examples of an I-Thou encounter is Emily Dickinson's poem "A Bird came down the walk." The poet and Dickinson scholar John Shoptaw, who also happened to be my undergraduate thesis adviser at Berkeley, showed it to me recently, and it became one of my favorites of her poems:

A Bird came down the Walk -
He did not know I saw -
He bit an Angleworm in halves
And ate the fellow, raw,

And then he drank a Dew
From a Convenient Grass -
And then hopped sidewise to the Wall
To let a Beetle pass -

He glanced with rapid eyes
That hurried all around -
They looked like frightened Beads, I thought -
He stirred his Velvet Head

Like One in danger, Cautious,
I offered him a Crumb,
And he unrolled his feathers
And rowed him softer home -

Than Oars divide the Ocean,
Too silver for a seam -
Or Butterflies, off Banks of Noon
Leap, plashless as they swim.[12]

Knowing my habit of feeding birds, Shoptaw pointed out that the line "Like one in danger, Cautious" is placed so that it could refer either to the bird or the speaker who offers it a crumb. To explain this, he asked me to think about how I must look when I'm approaching a skittish Crow or Crowson on my balcony with a peanut. It wasn't something I had ever thought about, but when I did, I realized that both the crow and I acted "like one in danger, Cautious," each almost frozen, completely focused on the other, affected by and adjusting to the other's tiniest movements.

What's more, even after years of observing the same crows, their behavior—like the seemingly haphazard procedure of Dickinson's bird—is ultimately inscrutable to me (as much as mine must be to them). Just as Dickinson's bird "row[s] him softer" to some unknown "home," nothing indicates that something exists

beyond you as much as its departure into the sky, as sudden and unceremonious as its arrival. All of this makes for a being that cannot be "understood" or "interpreted" (I-It), only "perceived" (I-Thou). And that which cannot be understood—a once-and-for-all matter—demands constant and unmixed attention, an ongoing state of encounter.

IN THE MID-TWENTIETH century, responding to a long history of representational art, many abstract and minimalist painters sought to induce an "I-Thou" kind of encounter between viewer and painting. One example is Barnett Newman's 1953 painting *Onement VI*, an eight-and-a-half-by-ten-foot field of deep blue divided by a rough white line. When the critic and philosopher Arthur C. Danto wrote about the piece, he called it Newman's first "real" painting. The earlier works, though they were technically paintings, were for Danto "merely pictures." He gives the example of Renaissance scenes where the picture functions as a window that the viewer looks through and sees events happening in some other space we don't occupy (Hockney wouldn't have liked this kind of painting either). But an actual painting, as opposed to a picture, confronts us in physical space:

[Newman's new] paintings are objects in their own right. A picture represented something other than itself; a painting represents itself. A picture mediates between a viewer and an object in pictorial space; a painting is an object to which the viewer relates without mediation . . . It is on the surface and in the same space as we are. Painting and viewer coexist in the same reality.[13]

Incidentally, this points to another way in which attention brings us outside the self: it's not just the other that becomes real to us, but our attention itself that becomes palpable. Thrown back on

ourselves by a "wall" and not a window, we can also begin to see ourselves seeing.

Recently this sort of encounter actually stopped me in my tracks. Killing time before a meeting with someone at SFMOMA, I was wandering through the different floors and ended up in the exhibition *Approaching American Abstraction*. At some point I turned a corner and saw Ellsworth Kelly's *Blue Green Black Red*, which is exactly what it sounds like: four separate panels of one color each, about the size of myself. At first, I wrote this off as quickly as anyone might, not thinking it was "about" anything other than abstraction (whatever that might mean). But when I got closer to the first panel, I was completely caught off guard by a physical sensation. Although the covering was consistent and flat, the color blue was not stable: it vibrated and seemed to push and pull my vision in different directions. For lack of a better description, the painting seemed *active*.

I can't stress enough that this was a bodily feeling—like Buber's tree, the painting "bodied" across from me. I realized I needed to look at every single panel, spending the same amount of time on each one, since each color vibrated differently, or rather, my perception of the color did. Strange as it sounds to call a flat, monochromatic painting a "time-based medium," there was actually something to *find out* in each one—or rather, between me and each one—and the longer time I spent, the more I found out. Somewhat sheepishly, I thought about how someone across the room, too far away to understand, would see me: a person matter-of-factly staring at one after another of panels with "nothing" on them.

These paintings taught me about attention and duration, and that what I'll see depends on how I look, and for how long. It's a lot like breathing. Some kind of attention will always be present, but when we take hold of it, we have the ability to consciously direct, expand, and contract it. I'm often surprised at how shallow both my attention and my breathing are by default. As much as breathing deeply and well requires training and reminders, all of the artworks

I've described so far could be thought of as training apparatuses for attention. By inviting us to perceive at different scales and tempos than we're used to, they teach us not only how to sustain attention but how to move it back and forth between different registers. As always, this is enjoyable in and of itself. But if we allow that what we see forms the basis of how we can act, then the importance of directing our attention becomes all too clear.

IT'S PERHAPS HELPFUL here to look at some less artistic and more functional examples of training attention. In 2014, Dr. Aaron Seitz, a neuroscientist at University of California, Riverside, developed a visual training app called ULTIMEYES and tested it on university baseball players. The app, which specifically addressed dynamic visual acuity—the ability to make out the fine details of moving objects—seemed to have a positive overall effect on players' performance. In a Q&A on Reddit, Seitz noted that poor vision comes from a mix of two things: actual ocular impairments and brain-based impairments. Clearly, the former would require medical intervention; it was the latter that the program aimed to improve.[14]

Incidentally, the app might be good for training other kinds of attention. One review on the App Store, titled "The Dumbest," reports that the user was only able to use it for ten minutes before getting bored and deleting it.[15] I will say that the experience is rather spare. When I decided to give it a try, I was faced over and over again with a gray screen onto which a sneaky group of Gabors (a kind of soft-edged striped spot) would appear, waiting to be tapped. If I didn't see one, which was often, it would start to wiggle insistently until I did.

Every three sessions, I had my visual acuity evaluated with a different kind of exercise. Sure enough, my score improved each time I was evaluated. But more than improvement, using the app became a rigorous reminder for me of the many ways it's possible *not* to see something. I became fixated on the moments where I would

know (intellectually) that there was something on the screen and that I couldn't for the life of me see it, either because it was too faint or I was looking in the wrong place.

In some ways, this was a firsthand experience of some research I had read about on "inattentional blindness." Berkeley researchers Arien Mack and Irvin Rock coined the term in the 1990s while studying the drastic difference in our ability to perceive something if it lies outside our field of visual attention. In a simple experiment, they asked subjects to look at a cross on the screen and try to determine whether any of the lines were longer than the other. But this was a made-up task to distract subjects from the actual experiment. While the subjects were staring at the cross, a small stimulus would flash somewhere on the screen. When the stimulus fell inside the circular area circumscribing the cross lines, the subjects were much more likely to see it. "In short, when the inattention stimulus falls *outside* the area to which attention is paid, it is much less likely to capture attention and be seen," the researchers write.[16]

That's intuitive enough, but it gets more complicated. If the briefly flashing stimulus was outside the area of visual attention, but was something distinct like a smiley face or the person's name, the subject *would* notice it after all. This effect depended on how recognizable it was; for example, it didn't work with a sad or scrambled face, or with a word similar to the person's name. (If they flashed in the very same spot, I'd see "Jenny," but "Janny" would go unnoticed.) From this, Mack and Rock concluded that all of the information—noticed and not noticed—must actually be getting processed, and that it was at a late stage of processing that the brain determined whether the stimulus would be perceived or not. "If this were not the case," they write, "it becomes difficult to explain why 'Jack' is seen but 'Jeck' goes undetected, or why a happy face is seen and a sad or scrambled one is detected so much less frequently." The researchers suggest that attention is "a key that unlocks the gate dividing unconscious perception . . . from

conscious perception. Without this attentional key, there simply is no awareness of the stimulus."[17]

As an artist interested in using art to influence and widen attention, I couldn't help extrapolating the implications from visual attention to attention at large. It's a commonplace that we only see what we're looking for, but this idea of information that makes it into our brains without being admitted into consciousness seemed to explain the eeriness of suddenly seeing something that has been there all along. For instance, the many times I had walked down Grove Street after a symphony performance, noises had presumably been making it into my ears and were being processed; after all, I wasn't physiologically hard of hearing. It was the performance of the John Cage piece, or rather its attunement of my attention, that provided the "key" for those sounds to pass through the "gate" toward conscious perception. When I moved the focus of my attention, those signals that had been traveling into my head were finally granted admission into conscious perception.

There are potentially wider parallels to be made, since inattentional blindness is basically a form of visual bias, and something like inattentional blindness seems to be at work in broader forms of bias. In her *Atlantic* piece "Is This How Discrimination Ends?" the author Jessica Nordell takes part in a session of the Prejudice Lab, a project run by psychology professor Patricia Devine. As a graduate student, Devine had done experiments around the psychological aspects of implicit racial bias: "She demonstrated that even if people don't believe racist stereotypes are true, those stereotypes, once absorbed, can influence people's behavior without their awareness or intent." The Prejudice Lab runs workshops at businesses and schools with the aim of showing people their own biases—in effect, to help learn how to see what they're not seeing.[18]

In the two-hour workshop that Nordell attended, Devine and her colleague Will Cox explained the science of bias, "barreled through mountains of evidence," and invited students to share stories of how bias had played out in their own lives—stories none of

them had a hard time coming up with. Nordell writes that while many other psychology experiments treat bias as a condition to be adjusted, Devine's treats it as a behavior, aiming simply to "make unconscious patterns conscious and intentional." In effect, the Prejudice Lab was the "attentional key" that brought racist thought and behavior to consciousness. So far, Nordell writes, the data suggest that the Prejudice Lab's approach is working. But the success of the intervention largely rests on the individual: "To [break a habit], Devine said, you have to be aware of it, motivated to change, and have a strategy for replacing it."

IT'S HERE THAT I want to come back to the relationship between discipline and attention from the previous chapter. An element of effort and straining exists in the word *attention* itself, which comes from Latin *ad* + *tendere*, "to stretch toward." This relationship finds one of its most compelling expressions in William James's 1890 *The Principles of Psychology*. Defining attention as the ability to hold something before the mind, James observes that the inclination of attention is toward fleetingness. He quotes the physicist and physician Hermann von Helmholtz, who had experimented on himself with various distractions:

> The natural tendency of attention when left to itself is to wander to ever new things; and so soon as the interest of its object is over, so soon as nothing new is to be noticed there, it passes, in spite of our will, to something else. If we wish to keep it upon one and the same object, we must seek constantly to find out something new about the latter, especially if other powerful impressions are attracting us away.[19]

If, as I've said, attention is a state of openness that assumes there is something new to be seen, it is also true that this state must resist our tendency to declare our observations finished—to be done

with it. For James as for von Helmholtz, this means that there is no such thing as voluntary sustained attention. Instead, what passes for sustained attention is actually a series of successive efforts to bring attention back to the same thing, considering it again and again with unwavering consistency. Furthermore, if attention attaches to what is new, we must be finding ever newer angles on the object of our sustained attention—no small task. James thus makes explicit the role of will in attention:

> Though the spontaneous drift of thought is all the other way, the attention must be kept strained on that one object until at last it grows, so as to maintain itself before the kind with ease. This strain of attention is the fundamental act of will.[20]

Nordell closes her piece on the Prejudice Lab with an eloquent example of this constant, effortful return. She writes that the day she left University of Wisconsin–Madison, where the workshop had taken place, she saw two people in her hotel lobby wearing "worn, rumpled clothes, with ragged holes in the knees." A story about them formed in her mind before she could catch it, wherein they couldn't possibly be guests of the hotel and must have been friends of the clerk. "It was a tiny story, a minor assumption," she writes, "but that's how bias starts: as a flicker—unseen, unchecked—that taps at behaviors, reactions, and thoughts." The Prejudice Lab had helped train her to catch it, though, and she could catch it again. Her commitment to do so demonstrates the vigilance at the core of sustained attention:

> Afterwards, I kept watching for that flutter, like a person with a net in hand waiting for a dragonfly. And I caught it, many times. Maybe this is the beginning of how my own prejudice ends. Watching for it. Catching it and holding it up to the light. Releasing it. Watching for it again.[21]

IF ATTENTION AND will are so closely linked, then we have even more reason to worry about an entire economy and information ecosystem preying on our attention. In a post about ad blockers on the University of Oxford's "Practical Ethics" blog, the technology ethicist James Williams (of Time Well Spent) lays out the stakes:

> We experience the externalities of the attention economy in little drips, so we tend to describe them with words of mild bemusement like "annoying" or "distracting." But this is a grave misreading of their nature. In the short term, distractions can keep us from doing the things we want to do. In the longer term, however, they can accumulate and keep us from living the lives we want to live, or, even worse, undermine our capacities for reflection and self-regulation, making it harder, in the words of Harry Frankfurt, to "want what we want to want." Thus there are deep ethical implications lurking here for freedom, wellbeing, and even the integrity of the self.[22]

I first learned about James Williams from a recent Stanford master's thesis by Devangi Vivrekar, called "Persuasive Design Techniques in the Attention Economy: User Awareness, Theory, and Ethics." The thesis is mainly about how Vivrekar and her colleagues in the Human-Computer Interaction department designed and experimented with a system called Nudget. In an effort to make the user aware of persuasive design, Nudget used overlays to call out and describe several of the persuasive design elements in the Facebook interface as the user encountered them.[23]

But the thesis is also useful simply as a catalog of the many forms of persuasive design—the kinds that behavioral scientists have been studying in advertising since the mid-twentieth century. For

example, Vivrekar lists the strategies identified by researchers Marwell and Schmitt in 1967: "reward, punishment, positive expertise, negative expertise, liking/ingratiation, gifting/pre-giving, debt, aversive stimulation, moral appeal, positive self-feeling, negative self-feeling, positive altercasting, negative altercasting, positive esteem of others, and negative esteem of others." Vivrekar herself has study participants identify instances of persuasive design on the LinkedIn site and compiles a staggering list of 171 persuasive design techniques.[24] A few for example:

Screen #	#	Persuasive Vehicle	Method of Persuasion
1A	1	Notification badges on the horizontal toolbar for "notifications," "messages," and "network"	Makes you want to click and see new notifications (arouses curiosity)
1A	2	Red color of notification badges on the horizontal toolbar	Stands out / catches your attention / indicates urgency in order to redirect your clicks to other people's or companies' pages
1A	3	Number on the notification badges on the horizontal toolbar	Makes it feel like a to-do list and makes you want to get the number to 0 (arouses our "base desire for having order instead of chaos")
1A	4	Intermittent variable notifications	The delivery schedule of notifications is varied and intermittent, which keeps it changing and thus interesting
1A	5	Textual ad at the top: "Ready for a change . . ."	Tries to get you to click on that page by appearing organic and relevant

This detailed vocabulary of persuasion and eagle-eyed attentiveness to its many forms aligns with my interest in "knowing your enemy" when it comes to the attention economy. For example, one

could draw parallels between the Nudget system, which teaches users to see the ways in which they are being persuaded, and the Prejudice Lab, which shows participants how bias guides their behavior.

But as for the results of this accounting, Vivrekar and I come to very different conclusions. Indeed, I found a helpful articulation of my own argument for discipline in a section of hers titled "Counter-Arguments." She writes, "Proponents of the 'agency' side in the agency vs. structure debate claim that instead of focusing on the problem of how to make persuasion more ethical, we should focus on empowering people to have more self control" (that's me!). Vivrekar and the technology ethicists she cites, however, are less than optimistic about this approach:

> Portraying the problem as one in which we just need to be more mindful of our interaction with apps can be likened to saying we need to be more mindful of our behavior while interacting with the artificial intelligence algorithms that beat us at chess; equally sophisticated algorithms beat us at the attention game all the time.[25]

For Vivrekar, persuasion is a given, and the only thing we can do about it is redirect it:

> When we remember that hundreds of engineers and designers predict and plan for our every move on these platforms, it seems more justified to shift the focus of the discussion towards ethical persuasion.

This argument takes a few important things for granted. "Ethical persuasion" means persuading the user to do something that is good for them, using "harmonious designs that continuously empower us instead of distracting and frustrating us." Reading this, I can't help but ask: Empower me to do what? Good for me according to whom? And according to what standards? Happiness, productiv-

ity? These are the same standards that Frazier uses when designing Walden Two. The idea that I've already lost the battle of attention doesn't sit right with me, an agential being interested in gaining control of my attention rather than simply having it directed in ways that are deemed better for me.

This solution also takes the attention economy itself for granted—something to be corrected but which is otherwise inevitable. Vivrekar notes that "metrics that align better with user values are not always contrary to the long-term business profits of companies in the attention economy; they actually pose a market opportunity." She quotes Eric Holmen, the Senior Vice President of Urban Airship, a company on whom "[e]very day, marketers and developers depend on . . . to deliver one billion mobile moments that inspire interest and drive action." Holmen sees big bucks in authenticity:

> People increasingly want to spend time well, not spend more of it . . . If it's our shallowest self which is reflected to us every time we open Facebook, Instagram and YouTube, the best business opportunity around might be to begin to cater for our aspirational selves.[26]

But just who is this "our"? What does persuasive design look like when someone else tries to bring out my "aspirational self," and does it for profit? Help!

Lastly, there is attention itself, which this approach also takes for granted. It assumes not only that our attention will always be captured, but that our attention remains the same throughout. I described in the previous chapter how the attention economy targets our attention as if it were an undifferentiated and interchangeable currency; the "ethical persuasion" approach is no exception. When we think about the different kinds of attention we are actually capable of—the pinnacle being the kind that William James describes, if we only have the discipline—it becomes clear that most forms of

persuasive design (whether nefarious or "empowering") assume a rather shallow form of attention. We might extrapolate from this to conclude that deeper, hardier, more nuanced forms of attention are less susceptible to appropriation, because discipline and vigilance inhere within them.

JUST A DAY before reading Vivrekar's thesis, I had seen the film *Blindspotting* at an old Oakland theater in Grand Lake. Daveed Diggs (of *Hamilton* fame) and the poet Rafael Casal, both of whom grew up in the East Bay, wrote and starred in what is essentially a virtuosic poem on the gentrification of Oakland. In the film, Diggs plays Collin, a young black man in the last days of his yearlong probation after prison, and Casal plays Miles, his hot-tempered white friend from childhood. Tantalizingly close to a year without incident, Collin struggles emotionally after witnessing a white police officer gun down a black man running and yelling, "Don't shoot!"

On top of that, Miles keeps getting them in trouble, jeopardizing Collin's probation and risking his return to prison. At an obnoxious hipster party in West Oakland, where one of the few Black attendees assumes Miles is a hipster newcomer because he's white, Miles gets so angry that he beats the man senseless and pulls out a gun, which Collin has to take away from him—all this on the night before his probation is up. Having fled the scene, Collin and Miles have a screaming fight in which the racial dimension of their friendship finally surfaces. They are angry at each other not just as friends but as a black man and a white man for whom the stakes are very different.

There is only one other scene in the film in which the two face each other so intensely. It happens much earlier, in Johansson Projects, a small gallery downtown. Collin and Miles are visiting a middle-aged photographer who makes portraits of Oakland residents. As the camera zooms in on each portrait, bringing the eyes of each subject into focus, the photographer tells Collin and Miles that this is his way of fighting gentrification: by presenting viewers

with the faces of the people being pushed out. Then, seemingly out of the blue, he asks Collin and Miles to stand and look at each other without speaking. Initially sheepish, the two oblige, and what follows is a long, weird, magical moment. The camera cuts back and forth, but we can have no idea what each is seeing in the other. This opacity reflects the experience each might be having of the other as an unfathomable, undeniably real being. Eventually the spell is broken, and the two men laugh, embarrassed, deflecting emotion by poking fun at the photographer for his strange request.

In the discomfort and unnaturalness of the moment in which Collin and Miles stare at each other, you can feel the "stretching toward" (*ad tendere*) in attention. They do not just have their eyes directed toward each other; they are seeing each other. It was this scene that made clear for me the connection between attention, perception, bias, and will. In effect, the opposite of a racist view is Buber's "I-Thou" perception, which assiduously refuses to let the other collapse into any one instrumental category. Recall that Buber refuses to see the tree as image, species, or relationship of numbers. Instead "thou" has the same depth as I. Seeing this way means foregoing all of the many easier and more habitual ways to "see," and as such, it is a fragile state requiring the discipline to continue.

As a response to the attention economy, the argument for ethical persuasion happens on a two-dimensional plane that assumes that attention can only be directed this way or that way. I am not as interested in that plane as I am interested in a disciplined deepening of attention. While I am all for legal restrictions on addictive technology, I also want to see what's possible when we take up William James's challenge and bring attention back, over and over again, to an idea "held steadily before the mind until it fills the mind." I am personally unsatisfied with untrained attention, which flickers from one new thing to the next, not only because it is a shallow experience, or because it is an expression of habit rather than will, but because it gives me less access to my own human experience.

To me, the only habit worth "designing for" is the habit of ques-

tioning one's habitual ways of seeing, and that is what artists, writers, and musicians help us to do. It's no accident that in *Blindspotting*, the moment between Collin and Miles is organized by a photographer, whose work confronts viewers' "blind spots" with the reality of Oakland residents in all their human fullness. It's in the realm of poetics that we learn how to encounter. Significantly, these encounters are not optimized to "empower" us by making us happier or more productive. In fact, they may actually completely unsettle the priorities of the productive self and even the boundaries between self and other. Rather than providing us with drop-down menus, they confront us with serious questions, the answering of which may change us irreversibly.

THERE ARE MORE reasons to deepen attention than simply resisting the attention economy. Those reasons have to do with the very real ways in which attention—what we pay attention to and what we do not—renders our reality in a very serious sense. From the same set of "data," we draw conclusions based on our past experiences and assumptions. In her piece on the Prejudice Lab, Nordell speaks with Evelyn R. Carter, a social psychologist at UCLA, who tells her that "people in the majority and the minority often see two different realities" based on what they do and do not notice. For example, "[w]hite people . . . might only hear a racist remark, while people of color might register subtler actions, like someone scooting away slightly on the bus"

Thinking about the idea of rendering, I sometimes borrow from my experience with (literal, computational) rendering. For the last couple of years, I've been teaching my students Blender, an open-source 3-D modeling program. One of the hardest things to explain to students who have never worked in 3-D before is the concept of "a render." That is, for those who are used to working in something like Photoshop, the image shown in the workspace generally reflects the resulting image, to the point where there is little distinc-

tion. It can be difficult to get used to the idea of a program in which there is no image until you render it, and furthermore that the render may seem to have absolutely nothing to do with what you see in the workspace. (I often have students render a completely black image because they've accidentally deleted the only lamp from the scene.) Yes, there are objects in the file. But the actual image relies on a long list of variables like camera angle, lighting, textures, material, render engine, and render quality. Any one scene could thus produce an infinite number of different images depending on how it is rendered, each image essentially a different treatment of the same set of objects.

It's not hard to expand this into a more general model of rendering, where the objects in the scene are the objects, events, and people of the outside world, and the rendering decisions are the particular map of our attention. Already in 1890, William James wrote about how interest and attention renders the world from a "gray chaotic indiscriminateness," inadvertently evoking the default gray of an un-rendered scene in Blender:

> Millions of items of the outward order are present to my senses which never properly enter into my experience. Why? Because they have no interest for me. My experience is what I agree to attend to. Only those items which I notice shape my mind—without selective interest, experience is an utter chaos. Interest alone gives accent and emphasis, light and shade, background and foreground intelligible perspective, in a word. It varies in every creature, but without it the consciousness of every creature would be a gray chaotic indiscriminateness, impossible for us even to conceive.[27]

Most of us have experienced changes in rendering: you notice something once (or someone points it out to you) and then begin noticing it everywhere. As a simplistic example, my attention now "renders" to me a world more full of birds than before I was an

avid bird-watcher. Visitors to the de Young had their attention re-mapped by David Hockney to include small details, rich colors, and kaleidoscopic arrangement; the John Cage performance remapped my attention to include sound beyond melodic music. When the pattern of your attention has changed, you render your reality differently. You begin to move and act in a different kind of world.

I have already described the moment in which I discovered the ground. But I have not yet described what followed, which was a complete re-rendering of my reality. As I disengaged the map of my attention from the destructive news cycle and rhetoric of productivity, I began to build another one based on that of the more-than-human community, simply through patterns of noticing. At first this meant choosing certain things to look at; I also pored over guides and used the California Academy of Science's app, iNaturalist, to identify species of plants I had walked right by my entire life. As a result, more and more actors appeared in my reality: after birds, there were trees, then different kinds of trees, then the bugs that lived in them. I began to notice animal communities, plant communities, animal-plant communities; mountain ranges, fault lines, watersheds. It was a familiar feeling of disorientation, realized in a different arena. Once again, I was met with the uncanny knowledge that these had all been here before, yet they had been invisible to me in previous renderings of my reality.

IN ESSENCE, WHAT I was encountering without yet knowing the name for it was bioregionalism. Similar to many indigenous cultures' relationships to land, bioregionalism is first and foremost based on observation and recognition of what grows where, as well as an appreciation for the complex web of relationships among those actors. More than observation, it also suggests a way of identifying with place, weaving oneself into a region through observation of and responsibility to the local ecosystem. (Asked where he was from, Peter Berg, an early proponent of bioregionalism, used

to answer, "I am from the confluence of the Sacramento River and San Joaquin River and San Francisco Bay, of the Shasta bioregion, of the North Pacific Rim of the Pacific Basin of the Planet Earth."[28]) In these ways, bioregionalism is not just a science, but a model for community.

As I came to know my bioregion, I found myself increasingly identifying with a totemic complex of fellow inhabitants: Western fence lizards, California towhees, gray pines, manzanita, thimbleberries, giant sequoias, poison oak. When I travel, I no longer feel like I've arrived until I have "met" the local bioregion by walking around, observing what grows there, and learning something about the indigenous history of that place (which, in all too many places, is the last record of people engaging in any meaningful way with the bioregion). Interestingly, my experience suggests that while it initially takes effort to notice something new, over time a change happens that is irreversible. Redwoods, oaks, and blackberry shrubs will never be "a bunch of green." A towhee will never simply be "a bird" to me again, even if I wanted it to be. And it follows that this place can no longer be any place.

A YEAR AND a half ago I came across an aerial map of Rancho Rinconada, the Cupertino neighborhood I grew up in, as it was being built in the 1950s. Looking back and forth between the photo and Google Maps, I was able to figure out which street was which and thus pinpoint my house, otherwise indistinguishable amid the rows of tiny faux-Eichler bungalows. But there was one odd, wiggly road that didn't seem to correspond to anything, that is, until I realized that it was not a road but Saratoga Creek. When I thought about it, I did remember seeing a creek running past the neighborhood swimming pool, but I hadn't known it had a name. In my memory, it was just "the creek"; it didn't come from anywhere in particular, nor was it going anywhere.

I zoomed out on Google Maps and saw yet another creek, wind-

ing past the school where I went to kindergarten. Again I searched my memory, where it showed up only once. When I was five, the creek was the place that you couldn't get your ball back from if it went over the fence at the edge of the schoolyard. I barely remembered looking through that fence at its tangled and mysterious green depths and the strange pillowy cement bags that made up its banks. Back then, it merely represented the unknown, like an unruly foil to the manicured school grounds behind me. That is the only time that Calabazas Creek had surfaced to the level of my consciousness; all the other times I must have looked at the creek or walked or driven past it, it was like the unseen stimuli in Arien Mack and Irvin Rock's vision experiments—seen but not noticed.

Recognizing the creek unfolded a whole topography of what I had not noticed. Where was Calabazas Creek going? The Bay, obviously, but I had never made that connection in my mind. Where was it coming from? Table Mountain, something I had looked at every day but only now learned the name of! I'd complained about Cupertino being so flat; what if I had known that that was because, for millions of years, that entire part of the Bay Area was an inland sea, and after that marshland? How was it possible for me to know the names of cities like Los Gatos, Saratoga, and Almaden, but not notice that they lay in a distinct curve—a curve defined by the nearby mountains, Loma Prieta, Mount Umunhum, Mount McPherson? How could I have not noticed the shape of the place I lived?

Last year I told my friend Josh about (re)noticing Calabazas Creek. He lives in Oakland but had grown up near me, in Sunnyvale, and he, too, had buried memories of a creek. Josh's creek was fenced off and had a trapezoidal concrete bottom, looking more like a piece of infrastructure than a natural element as it passed unnoticed through the neighborhood. At some point, Josh and I realized we were talking about the same creek—he had lived downstream from me.

In December 2017 we drove to Cupertino and shimmied through

a gate in a chain-link fence affixed with a sign reading EMERGENCY ACCESS TO CREEK. ("What if the emergency is curiosity?" I wondered aloud.) The first thing I saw was the exact tableau I hadn't seen since I was five: a tangle of green around those cement bags, which I now knew were for flood control. It hadn't yet rained much and we were at the end of a six-year drought, so the creek bed was dry enough to use as a trail. We walked over riprap, a mixture of conglomerate stone that included bits of brick building surreally carved by water into organic-looking rock shapes. Above us were the trees I now knew the names of—valley oak and bay laurel—mixed in with some surprises, like an entire hillside of rogue prickly pear cacti escaped from someone's backyard.

From the creek bed, we looked up and out at a Bank of America building, a strange and alienating angle on the familiar. We saw the backs of wooden fences around homes, some of whose inhabitants might never have been down here. Approaching a tunnel under Stevens Creek Boulevard, the road that both the Vallco Fashion Park and the Cupertino Crossroads shopping center are on, we found a dark gallery of graffiti. Had we continued into the tunnel, we would have ended up in total darkness underneath something called Main Street Cupertino, ironically one of Cupertino's newest shopping centers. Further on, we would have emerged from the tunnel into the grounds of Apple's new "spaceship" campus.

Nothing is so simultaneously familiar and alien as that which has been present all along. Between, under, and amid all these things wound this entity that was older than I was, older than Cupertino. It represented a kind of primordial movement, even if its course had been altered by engineering in the nineteenth century. Long before cars drove from Whole Foods to the Apple campus, the creek moved water from Table Mountain to the San Francisco Bay. It continues to do this just as it always has, and whether I or any other humans care to notice. But when we do notice, like all things we give our sustained attention to, the creek begins to reveal its significance. Unlike the manufactured Main Street Cupertino, it is

not there because someone put it there; it is not there to be pro-ductive; it is not there as an amenity. It is witness to a watershed that precedes us. In that sense, the creek is a reminder that we do not live in a simulation—a streamlined world of products, results, experiences, reviews—but rather on a giant rock whose other life-forms operate according to an ancient, oozing, almost chthonic logic. Snaking through the midst of the banal everyday is a deep weirdness, a world of flowerings, decompositions, and seepages, of a million crawling things, of spores and lacy fungal filaments, of minerals reacting and things being eaten away—all just on the other side of the chain-link fence.

It would not have been the same if I had gone to Calabazas Creek alone. The moment that Josh and I combined the fragments in our memories into the same body of water, the creek came not just to individual attention but to collective attention. It became part of a shared reality, a reference point outside of each of us. Picking our way over the riprap in this sunken, otherwise-unnoticed path-way—attending to the creek with the presence of our bodies—we were also rendering a version of the world in which the creek does appear, alongside its tributaries and its mountain and all the things growing and swimming within it.

Realities are, after all, inhabitable. If we can render a new reality together—with attention—perhaps we can meet each other there.

Chapter 5

Ecology of Strangers

There are more things in mind, in the imagination, than "you" can keep track of—thoughts, memories, images, angers, delights, rise unbidden. The depths of mind, the unconscious, are our in-ner wilderness areas, and that is where a bobcat is right now. I do not mean personal bobcats in personal psyches, but the bobcat that roams from dream to dream.

—GARY SNYDER, *THE PRACTICE OF THE WILD*[1]

On a lazy Saturday at the end of 2017, I was walking from the Rose Garden to Piedmont Grocery, a route I've taken hun-dreds of times. As I crested the hill, I saw a young woman walking her dog in the opposite direction. We were just about to pass each other when she stopped and fell to the ground—luckily in a patch of grass in front of a church—and started having a seizure. I don't re-member the order of events immediately following that. I do know that I dialed 911 and yelled "help" loud enough that people in the apartment building across the street came out, and that I somehow summoned the presence of mind to give the dispatcher the cross street and describe the circumstances. Initially, the woman's eyes were open and looking directly at me, returning my gaze without seeing. It was as surreal as it was terrifying. Before others arrived, on that otherwise empty street, I felt completely responsible to this person I had never seen before a few minutes ago.

When she came to, the woman was suspicious of me and the people from the apartment building who had brought water; I