

How do you use the internet mindfully?

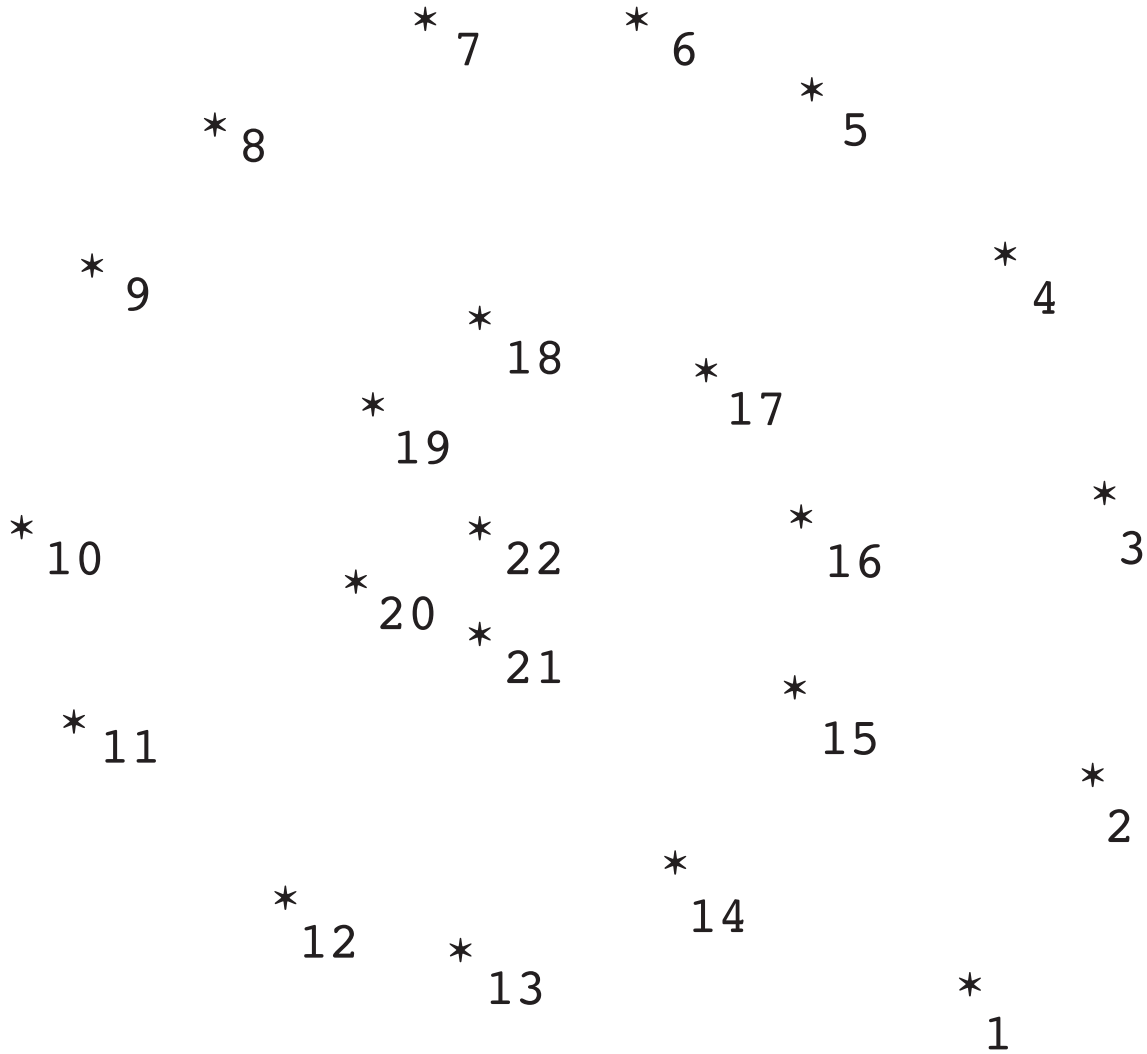


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Note: Each essay printed in this book has a corresponding Are.na channel—collecting related ideas, links, and media—that together make up The Library of Practical and Conceptual Resources. The numbers printed alongside each essay correspond to blocks on Are.na. You can view these online by typing in your browser:

<https://are.na/block/insert-block-number-here>

The prelude to each essay also includes a link to its online version. There, you can access the essay's corresponding Are.na channel in its entirety.

Can the internet be a creative paradise?

Editor's preface by Willa Köerner

At The Creative Independent—an online resource of emotional and practical guidance for artists—we have often wondered what it means for us to primarily exist as a digital publication. Our goal is to be a thoughtful resource that all types of creative people can benefit from, and sometimes the time-and-attention-gobbling nature of today's internet feels at odds with that mission. How should we address this disconnect between our form (a resource that exists online) vs. our function (an archive of advice that, based on wisdom gathered through hundreds of interviews, would not advise that anyone spends too much time online)?

Indeed, the internet carries with it many conundrums. While promising us access to anything and everything on-demand, time spent scrolling, clicking, and sharing can often leave one with a sense of over-saturated nothingness. Where does that time and energy go? And what is it replaced with? Just several short decades after the internet's birth, it truly seems to have shape-shifted from something we created into something that, through slow yet severe mutation, creates us.

At this point in time—when the web often seems completely overtaken by slick commercialized sites and mind-manipulating social media apps—is it still possible to reclaim the net as a productive space where creativity can flourish? While thinking through these (and more) existential questions related to life and creativity online, we crossed paths with the team that builds Are.na, a digital platform for connecting ideas. In a simple yet profound way, Are.na's design enables thoughtful internet users to build their own libraries of digital ephemera, ideas, and links—and then connect with each other through those collections. In the chaos of today's net, this humble act of building and sharing personal, digital research libraries feels almost radical, and made us wonder: *What might be possible if we were to collectively reorganize the net with the primary objective of using it as a creative tool? How can we all, together, use the internet more mindfully?*

To explore this question, we joined forces with the Are.na team to commission a series of artist-penned essays, each of which tackles the idea of “being mindful and creative online” in a different way. What you hold in your hands now is a book compiling those essays, which together paint a picture of what it means to log on in 2018—and, more so, what it means to be a person trying to live a fulfilling, creative life in a world made both better and worse by networked technologies.

In the essays you’ll soon read, many contributors muse over the idea that while status-quo websites and apps don’t seem to promote creativity or thoughtfulness, it only takes a bit of work to re-expose the web’s vast potential. In her essay on all the forms that websites can take, artist and designer (and original Creative Director of TCI) Laurel Schwulst reminds us how building a website can still be a deeply poetic, personal, and creative act: “There are endless possibilities as to what a website could be. What kind of room is a website? Or is a website more like a house? A boat? A cloud? A garden? A puddle? Whatever it is, there’s potential for a self-reflexive feedback loop: when you put energy into a website, in turn the website helps form your own identity.”

As we click, surf, and code, we sculpt our own digital universes by building personalized information architectures around ourselves. In this way, the hours we spend online are not idle; rather, each upload and download helps cultivate our identity, and our overall sense of self. Because of this, being thoughtful about how we exist online doesn’t just seem like an aspirational ambition; instead, consciously considering how we consume and publish digital information feels essential to cultivating a grounded sense of self. And just like it takes effort to keep your physical body in shape, learning to powerfully flex your mind in the digital space requires discipline.

Of course, this need to proactively and creatively cultivate one’s own mind is not an attitude that should solely exist in digital spaces. The internet enables us to create new things by connecting existing things together in creative ways—and this networked approach is perhaps how all new ideas come to exist. Writes artist Jenny Odell in her essay *On how to grow an*

idea, “Why is it that when we sit down and try to force an idea, nothing comes—or, if we succeed in forcing it, it feels stale and contrived? Why do the best ideas appear uninvited and at the strangest times, darting out at us like an impish squirrel from a shrub? The key, in my opinion, has to do with what you think it is that’s doing the producing, and where. It’s easy for me to say that ‘I produce ideas. But when I’ve finished something, it’s often hard for me to say how it happened—where it started, what route it took, and why it ended where it did.”

This is because ideas are not singular entities—they, too, are networks. In this way, the internet is an endless vortex of ready-to-be-realized thoughts, visions, and realizations. In his essay on building knowledge networks, designer Édouard U. explores how consciously pushing himself to take a networked approach to reading, watching, and (of course) web surfing enables him to construct a far more individualized perspective on things. He writes, “My methods for avoiding [a closed-minded understanding of the world] have been simple: Read two or more books at the same time, always. Reject the closed-universe-on-rails nature of every single film ever made, and when possible, use the Wikipedia-while-watching technique to keep connecting the dots as I go. Always encourage myself to follow footnotes into rabbit-hole oblivion. Surf—don’t search—the web.”

As a space of possibility, the web truly is limitless. Using the internet from a position of mindful curiosity and determination—instead of from a position of passive consumption—immediately pivots its effect from virulence to usefulness. But, overall, how *do* we use the internet more mindfully (which, every time I write it, sounds so much like something you’d see on an aspirational quote poster)? And not just once in a while, but as a general habit? The answer to this seems to be deeply personal, and something for every internet user to consider on their own terms. For this series, in addition to their essay, each contributor also collected a series of related “resources”—links, images, instructions, or ideas—that would enable readers to go deeper within the network of ideas from which their essay manifested. Together, we called these collections “The Library of Practical and Conceptual Resources,” as we hoped the combined ephemera would work as a tool to inspire more curiosity and creativity online.

While the Library's collections have not been fully reproduced in this book (sadly, hyperlinks still don't work so well in print), you are invited to explore its contents—including Jon Gacnik's collection of mountaintop webcam portals, documentation from Ingrid Burrington's project to sand down an iPhone into the geological dust from which it was born, and Fei Liu's instructions for squeezing a genuine drop of love out of the internet, to name a few—by visiting the URLs printed in the prelude of each essay.

As Jorge Luis Borges is known to have said, "I have always imagined that paradise will be a kind of library." In its purest form, that is indeed what the internet is—a large collection of information and ideas, loosely catalogued and linked together in an attempt to harness the endless human quest for knowledge, connection, and understanding. Today's web perhaps just lacks one thing that the best brick-and-mortar libraries have in abundance: a sense of intimacy. We hope that by assembling the Library of Practical and Conceptual Resources, we have succeeded in producing a cozier-feeling web that while existing as its own contained universe, can still channel a feeling of endless, untethered possibility. And perhaps as you read and click, you'll have a chance to catch a fleeting glimpse of how the internet could still be, in its own weird way, a kind of paradise.

From imagining to manifesting the web we want

Introduction by the Are.na team

This summer we got to watch a workshop created by a few friends that used colorful cardboard blocks to imagine the internet as a city.¹ Together they built structures that represented different ways of organizing the infrastructure of the web. “If the Internet were a city,” they asked, “what would be its roads, buildings, and parks?”

We like this metaphor because it helps us talk about technology beyond the scope of individual features and technical problem-solving. Instead, it presses us to draw qualitatively on our relationship to the world around us for inspiration. Maybe you would prefer to live in a city with plentiful parks, efficient transportation, and affordable neighborhoods. Maybe you’d like to get rid of incessant advertisement and surveillance cameras. By picturing the ways that those features demonstrate our values—common access to public space, a meaningful right to individual privacy, and so on—we can think expansively about how to manifest those values on the web.

Even though the internet suffers from the same problems that affect cities, it’s not always easy to see the internet as a field of action. Its workings can feel opaque and intangible to non-engineers. Even programmers have to contend with a culture and a market that encourage a fairly narrow range of creative outputs. Describing the web in different terms can help us see beyond the current landscape of dominant platforms, and aim for a more meaningful model of online social life.

Artists and creative technologists can help us consider the internet in ways the technology industry still struggles to see it: as a place where people relate to one another emotionally, or generate knowledge together, or create safe and supportive communities for common use. More often, companies are under pressure to understand their missions as a set of growth metrics, and then push those numbers up exponentially. But the

design critic and philosopher Joe Edelman posed an important question when he asked, “is anything worth maximizing?” If we’re sensitive to the expressive qualities of the web as a creative medium, we can create tools that fully empower the people who use them.

The good news is that changing the status quo online is easier than transforming the physical fabric of our cities. The solutions to our problems with the web are more cultural than they are technical, financial, or political. If we can popularize a broader vision of how we want to be together online, we can channel a tremendous amount of energy towards creating more cooperative spaces.

In her essay *On how to grow an idea* (which you can read on page 17), artist Jenny Odell writes that “ideas are not products, as much as corporations would like them to be. Ideas are intersections between ourselves and something else, whether that’s a book, a conversation with a friend, or the subtle suggestion of a tree. Ideas can literally arise out of clouds (if we are looking at them). That is to say: ideas, like consciousness itself, are emergent properties, and thinking might be more participation than it is production.”

The participation she describes is something we have all experienced at one point or another on the web. Discovering a beautiful homepage, finding another person with similar interests, or stumbling onto a whole field of knowledge you didn’t know existed—all these experiences help us to deepen our view of the world. Each encounter with the sprawling, extravagant intelligence of the human network is revelatory in its own way.

The essays in this book offer theories and strategies that creative people can use to find more of these moments in the course of their projects. Each one also offers its own vision of a world we have the opportunity to make together. We hope they inspire you to navigate the web in ways that fully express the joy and dignity of the medium.

1. The Internet as a City workshop was created by a group of students and educators at MIT: Agnes Cameron (MIT Media Lab), Kalli Retzepi (MIT Media Lab), Sam Ghantous (MIT Architecture), and Zhexi Zhang (MIT ACT program). The workshop was part of the 2018 Decentralized Web Summit hosted by the Internet Archive. The blocks were subsequently adopted by an elementary school teacher in San Francisco.



Decentralized Web Summit 2018, San Francisco.
Photo by Jon-Kyle Mohr

Essay 1:

A drop of love in the cloud by Fei Liu

Fei Liu 刘斐 is a New York-based Chinese designer, artist, writer, and DJ exploring digital empathy and the narrative potential of interfaces. She is an adjunct professor at Parsons MFA Design and Technology, and previously was a Researcher in Residence at NEW INC, and a Digital Solitude fellow at Akademie Schloss Solitude in Stuttgart, Germany. She has mid-to-average combined student debt from an undergraduate as well as a master's degree, and has no health insurance, car, or house.

► indp.co/cloud

I have always looked to find love online. Squeezing words through fiber optics to try and reach through the screen—to lace hands, to comfort, to talk through the things lost in time delays and bad dial-up connections. 2003-era LiveJournal primed me to receiving digital love, and now, like a junkie reminiscing about the “softer stuff,” I’m nostalgic for its design affordances. On LiveJournal, the only way to acknowledge, express approval, or “hate-like” something was by leaving a comment. Responding through text suggests nuance, and in this way, expands past the binary of “liked” or “not liked.”

In Erich Fromm’s classic (yet overly conservative and, by today’s standards, sexist) *The Art of Loving*, there is a chapter about the conceptual differences between motherly and fatherly love. I’ve found Fromm’s ideas useful as an analogy for social networks and algorithmically controlled social structures. He claims that as a child matures and takes her place in society, she is simultaneously moving from the realm of motherly, unconditional love, into the realm of fatherly love. Here, she must fulfill the prerequisites of patriarchy’s conditions in order to earn love. Similarly, the digital affirmations we receive throughout the day can feel like a simulacra of unconditional love—until we’re bereft of these affirmations, and we realize we have to constantly work to earn them.

Despite believing the enduring myth that the internet was created to be free, commercial ISPs formed only a few years after the WWW was invented. In 2018, love in the cloud is cheap to give and receive, and easy to mine and exploit. So where is unconditional, genuine love and affirmation in the cloud—and how hard do we need to squeeze it to get a drop? How might we keep our acts of love on the internet expansive, protected, and corporeal? My explorations of these questions start here.

The cloud is tangible

24x24 pixels worth of hearts and thumbs-ups are at the tips of our trigger fingers, and traded on a marketplace like commodities with decreasing value. Sending vectorized (infinitely scalable and replicable) abstractions of our feelings is now a tic—when we press the button we are acting on a neurological impulse to make known our identity, affiliations, and aspirations.

My late, ever-prescient friend Crystal Ruth Bell (maybe with a name like “Crystal Bell” it’s hard not to be ever-prescient) experimented with making social media tangible, way before this conversation mattered. On a 10-day trip together, we backpacked through fog-heavy and romantic areas in the Southwest of China. In her already bursting bag, she stuffed a crusty, leaky jar of DIY wheat paste, plus a

series of blown-up printouts of the 2010-era blue Facebook thumb, and the now-phased-out “You like this” text. I was cranky and wary when, during our long days out, she would stop every once in a while to dig up her tools and leave her mark.

Today, searching for documentation of her leaving her mark meant I had to enter the landmine of her In Memory Facebook profile—something I’ve not been able to do since she passed. I say landmine, but I guess it’s more like quicksand. The longer the lingering, the deeper the sink.

Sort by: love

Facebook’s Friendship Anniversary feature may be the closest thing we have to platform-level social media sentience about love and intimacy. Now though, any positive emotions we’ve associated with it are tainted by the thought that that memory, shared between friends, contributed somehow to the election of what Thor Harris, in another piece on The Creative Independent, called a “chapped scrotum.” As such, it’s important to remember: just because platforms like Facebook have been made to comprehend correlations in data columns that represent patterns of intimate human behavior, doesn’t mean they know how to love.

⋮ “It’s Aki! I’m here to listen to everyone’s
⋮ thoughts about wanting to die or to

⋮ disappear. I myself was once a young
⋮ girl, a wrist-cutter who did enjo kosai
⋮ [compensated dating] because I felt like I
⋮ didn’t belong anywhere. I wish to hear all
⋮ of your stories so we can find an answer
⋮ together!”

I’m fascinated by Twitter users like Aki@Soudanya, who seem to channel their emotional energy online in order to give absolute strangers a shoulder to tweet on. There’s a rash of these accounts that are especially active on Japanese twitter, who add the words “相談屋 soudanya” to denote that their accounts are run by people trying to fill the role of free online counseling.

And what does a social media platform know about the opposite of love, by virtue of being flooded with hate on an ongoing basis? What can a platform know about how to evaluate negativity against negativity? Might it ask, “Is this instance of harassment, vitriol, or threat of rape or death worse than that other one?” Are the standards gradually lowered? Does the idea of rating content based on how loving (or un-loving) it is sound completely idiotic? Would the standards rise in a competition to out-love each other—this comment doesn’t show care and affection as much as the other!—if this were the case?

The answers to many of these questions come down to who is making the call on whose love is protected, and how. As such, we may never find any answers. So maybe

it's best to take matters into our own hands.

Do not underestimate the people pleaser's potential for distributed cyber-care.

For the Library of Practical and Conceptual Resources, I've created a list of "action items" you can perform when you feel let down by the limitations of the digital embrace. As you perform these actions, keep the following in mind:

1. Do not overestimate how much love you deserve.
2. You must show love in order to receive it.
3. When you start performing love online, you don't even have to mean it at first. Know that building up a second-nature behavior is as much about following a steadfast routine as it is about developing a naturally occurring instinct.

Maybe in time, this list can help you reach across the chasm of a seamless signal.

ACTION #1:

Leave a mark. Matter has a matter; it matters.

1924873

ACTION #2:

Concentrate on a photo of your friend. Really, really look at them. Let your eyes rest on them. Let your wrist, extended by the organ of a pen or brush, follow their form. Choose colors that illuminate them.

1914883

ACTION #3:

Live Action Role Play as a "people-pleaser" bot. You must make everyone inside your social network feel like you love and care for them the same amount.

1920868

ACTION #4:

Create your own space on the cloud. Make it what you want. Invite your friends. Enjoy.

1914917

ACTION #5:

Interact with your parents online. Send them the memes you would send your friends. Step up the social-media-filial-piety-ratio. This can become uncomfortable or awkward.

1929792

ACTION #6:

If all else fails, know that no one needs your love as much as you do. Turn that energy inwards. Like yourself. Follow yourself. Pin yourself. Favorite yourself. Rate yourself. Check-in with yourself.

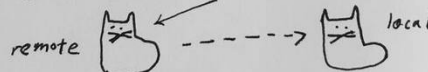
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How to build your own Distributed (INTER)-Net

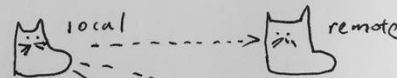
1. if using osx. install brew.
2. install node to get npm
3. install dat → datproject.org

in terminal

```
dat clone dat://<link> <CATS>
```



```
dat share <CATS>
```



publicly & secretly
version controlled
peer to peer

check. dat, beakerbrowser.com, hashbase.io

From Taeyoon Choi's distributed web of care
workshop @rhizomedotorg 3.24 @newmuseum
dat://cats-tchoi8.hashbase.io

1917678

Essay 2:

On how to grow an idea by Jenny Odell

Jenny Odell is an Oakland-based writer, visual artist, and involuntary birdwatcher whose work often involves the rewards of close observation. In 2015, she was an artist in residence at Recology SF (the San Francisco dump), where she created the Bureau of Suspended Objects, an obsessively-researched archive of 200 discarded objects. She teaches internet art at Stanford, is an artist in residence at the San Francisco Planning Department, and is currently working on a book called *How to Do Nothing* (forthcoming from Melville House).

► indp.co/idea

In the 1970s, a Japanese farmer discovered a better way to do something—by not doing it. In the introduction to Masanobu Fukuoka's *One-Straw Revolution*, Frances Moore Lappé describes the farmer's moment of inspiration:

The basic idea came to him one day as he happened to pass an old field which had been left unused and unplowed for many years. There he saw a tangle of grasses and weeds. From that time on, he stopped flooding his field in order to grow rice. He stopped sowing rice seed in the spring and, instead, put the seed out in the autumn, sowing it directly onto the surface of the field when it would naturally have fallen to the ground... Once he has seen to it that conditions have been tilted in favor of his crops, Mr. Fukuoka interferes as little as possible with the plant and animal communities in his fields.

Fukuoka's practice, which he perfected over many years, eventually became known as "do nothing farming." Not that it was easy: the do-nothing farmer needed to be more attentive and sensitive to the land and seasons than a regular farmer. After all, Fukuoka's ingenious method was hard-won after decades of his own close observations of weather patterns, insects, birds, trees, soil, and the interrelationships among all of these.

In *One Straw Revolution*, Fukuoka is rightly proud of what he has perfected. Do-nothing

"The path I have followed, this natural way of farming, which strikes most people as strange, was first interpreted as a reaction against the advance and reckless development of science. But all I have been doing, farming out here in the country, is trying to show that humanity knows nothing. Because the world is moving with such furious energy in the opposite direction, it may appear that I have fallen behind the times, but I firmly believe that the path I have been following is the most sensible one."

Masanobu Fukuoka, *The One Straw Revolution*

1839366

farming not only required less labor, no machines, and no fertilizer—it also enriched the soil year by year, while most farms depleted their soil. Despite the skepticism of others, Fukuoka’s farm yielded a harvest equal to or greater than that of other farms. “It seems unlikely that there could be a simpler way of raising grain,” he wrote. “The proof is ripening right before your eyes.”

One of Fukuoka’s insights was that there is a natural intelligence at work in existing ecosystems, and therefore the most intelligent way to farm was to interfere as little as possible. This obviously requires a reworking not only of what we consider farming, but maybe even what we consider progress.

In my view, Fukuoka was an inventor. Typically we associate invention and progress with the addition or development of new technology. So what happens when moving forward actually means taking something away, or moving in a direction that appears (to us) to be backward? Fukuoka wrote: “This method completely contradicts modern agricultural techniques. It throws scientific knowledge and traditional farming know-how right out the window.”

This practice of fitting oneself into the greater ecological scheme of things is almost comically opposite to the stories in John McPhee’s *Control of Nature*. There, we find near-Shakespearean tales of folly in which man tries and fails to master the sublime

“In general, our cultural training dominantly promotes active manipulation of the external environment through analysis and judgment, and tends to devalue the receptive mode which consists of observation and intuition...”

Pauline Oliveros, *Software for People*

1888580

powers of his environment (e.g. the decades-long attempt to keep the Mississippi river from changing course).

Any artist or writer might find this contrast familiar. Why is it that when we sit down and try to force an idea, nothing comes—or, if we succeed in forcing it, it feels stale and contrived? Why do the best ideas appear uninvited and at the strangest times, darting out at us like an impish squirrel from a shrub?

The key, in my opinion, has to do with what you think it is that’s doing the producing, and where. It’s easy for me to say that

“I” produce ideas. But when I’ve finished something, it’s often hard for me to say how it happened—where it started, what route it took, and why it ended where it did. Something similar is happening on a do-nothing farm, where transitive verbs seem inadequate. It doesn’t sound quite right to say that Fukuoka “farmed the land”—it’s more like he collaborated with the land, and through his collaboration, created the conditions for certain types of growth.

I’ve known for my entire adult life that going for a walk is how I can think most easily. Walking is not simply moving your thinking mind (some imagined insular thing) outside. The process of walking is thinking. In fact, in his book *Spell of the Sensuous: Perception and Language in a More-than-Human World*, David Abram proposes that it is not we who are thinking, but rather the environment that is thinking through us. Intelligence and thought are things to be found both in and around the self. “Each place is a unique state of mind,” Abram writes. “And the many owners that constitute and dwell within that locale—the spiders and the tree frogs no less than the human—all participate in, and partake of, the particular mind of the place.”

This is not as hand-wavy as it sounds. Studies in cognitive science have suggested that we do not encounter the environment as a static thing, nor are we static ourselves. As Francisco Varela, Evan Thompson, and Eleanor Rosch put it in *The Embodied*

Mind (a study of cognitive science alongside Buddhist principles): “Cognition is not the representation of a pre-given world by a pre-given mind but is rather the enactment of a world and a mind...”. Throughout the book, the authors build a model of cognition in which mind and environment are not separate, but rather co-produced from the very point at which they meet.

Ideas are not products, as much as corporations would like them to be. Ideas are intersections between ourselves and something else, whether that’s a book, a



How to pet a raven

1888533

conversation with a friend, or the subtle suggestion of a tree. Ideas can literally arise out of clouds (if we are looking at them). That is to say: ideas, like consciousness itself, are emergent properties, and thinking might be more participation than it is production. If we can accept this view of the mind with humility and awe, we might be amazed at what will grow there.

To accompany this essay, I've created a channel on Are.na called "How to grow an idea." There you'll find some seeds for thought, scattered amongst other growths: slime molds, twining vines, internet gardens, and starling murmurations. The interview with John Cage, where he sits by an open window and rejoices in unwritten music, might remind you a bit of Fukuoka, as might Scott Polach's piece in which an audience applauds the sunset. The channel starts with a reminder to breathe, and ends with an invitation to take a nap. Hopefully, somewhere in between, you might encounter something new.

"In Project Sea Hunt in the 1970s and '80s, the U.S. Coast Guard worked with pigeons, who were better at spotting men and equipment in open water than human beings. ... The pigeons perched in an observation bubble on the underside of a helicopter, where they pecked keys to indicate their finds. When they worked with their people instead of in isolation, pigeons were nearly 100 percent accurate. Clearly, the pigeons and Coast Guard personnel had to learn how to communicate with each other, and the pigeons had to learn what their humans were interested in seeing. In nonmimetic ways, people and birds had to invent pedagogical and technological ways to render each other capable in problems novel to all of them."

Donna J. Haraway, *Staying With the Trouble: Making Kin in the Chtulucene*

1888491

Essay 3:

What to watch to keep believing in yourself by Ida C. Benedetto

Ida C. Benedetto is an experience designer who sparks new insight through adventure and play. Her recent research outlines the design of transformative social experiences by comparing sex parties, funerals, and wilderness trips. She is currently a senior designer at SYPartners in New York City.

▶ indp.co/believe

One thing I do when I feel like a failure or have stopped believing in myself is watch inspirational talks. Even though I call myself a designer rather than an artist, I still pour a lot of myself into my work. Often, whatever is happening with my work can feel like it's happening to me on a personal level. I don't know if this is unhealthy or just the way to make work that matters. Whatever it is, there are times when the creative process can get me down and all I want to do is run away, or give up altogether.

But over the years, I've found that listening to a good talk ensures that I don't hide or flail forever. I've been gathering this list of talks for a few years at this point, and can say with certainty that they pretty reliably keep me from bottoming out. Some of the talks are inspirational, some are reassuring, and some are tactical. They come from pretty obvious sources: commencement speeches, TEDx talks, School of Life videos. Honestly, it's kind of embarrassing to share them publicly, since they feel so hokey when viewed all together out there in the open!

The talks roughly fall into these four categories:

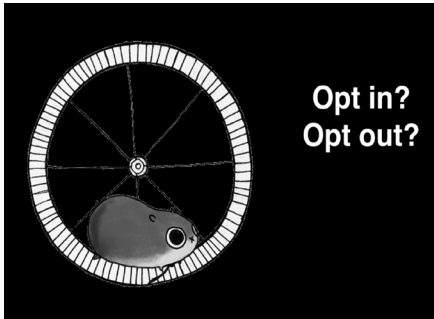
- Reminders that the ideas I deeply feel, believe in, and love are the most rewarding things to pursue.
- Lessons on putting your life in perspective, and seeing beyond any one achievement or low point.

- Insight into the differences I embody, the struggles that come with those differences, and how to value each difference as a strength.

- Tactics on how to maneuver through the present moment.

Sometimes I forget that I'm a creative person. In the daily and weekly flow of it all, other things can feel more worthy of my attention: strategy, smarts, money, friendships, status, love, diversions. But at the base of who I am, being creative isn't a choice for me—it's a hard-wired default, and I'm all too familiar with the downsides that the trait of creativity can present. The videos I'm sharing with you today have helped me cope with the downsides.

Maybe someday I'll wear these talks out, like a beloved album that I've listened to too many times for it to feel magical anymore. But the list isn't static. I add things and take things off. As a dynamic source of support, it keeps working. So if you struggle with the downsides of being a creative person too, maybe some of these talks will help you, just as they've helped me.



Yancey Strickler: Resist &
Thrive at PWL Camp.

1856542



Carrie Mae Weems: School of
Visual Arts 2016 commencement
address

1856556

Essay 4:

Before code, beyond speech by Lucy Siyao Liu

Lucy Siyao Liu is an artist and architectural designer based in New York. Her work addresses representational techniques and the disjunctions that occur in imaging technologies, with an emphasis on exploring systems of nature through drawings and animations. She is the creator and co-editor of PROPS PAPER, a weekly newspaper on image research. She teaches drawing for the Department of Architecture and for the Art, Culture and Technology (ACT) Program at MIT. Lately she has been drawing clouds.

► indp.co/speech

Codified systems of communication—such as writing, reading, and speaking—rely on pre-existing infrastructures of meaning to make sense. Concepts, emotions, and values are siphoned through the filter of language to become programmable and efficient. In this way, today’s communication systems regulate how we think and perpetuate spaces where nothing can be said without immediate interpretation.

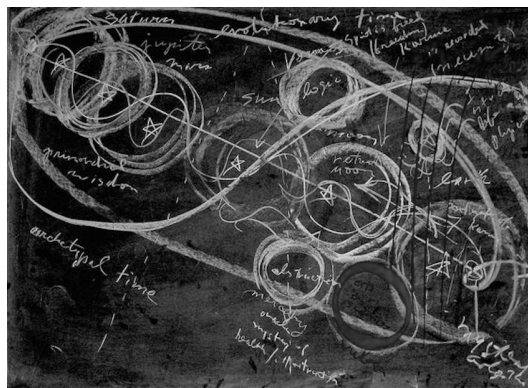
I wonder: how we can escape the tyranny of monolingual thinking? How do we think in images? How do we think in lines? How can we expand how we communicate?

In the 1950s, French pedagogue, writer, and filmmaker Fernand Deligny lived and worked with a group of autistic children who had been deemed by society to be *hors de parole* (“outside of speech”). Rather than attempting to condition the children to conform to dominant practices of communication, Deligny observed their behaviours to understand their unique modes of thinking and being. From this observation, he began creating drawings that mapped the children’s spatial activities. He called these maps *lignes d’erres*, or “wander lines.” Deligny used these lines as maps for navigating how the children related to each other and to their world. In the absence of language or speech, Deligny and the children communicated through drawings.

“a practice that would exclude from the outset interpretations referring to some code”

Fernand Deligny

1898001



Rudolf Steiner, *Chalk Drawings*, 1861–1925.

1208733

As a form of communication, drawing incorporates ambiguity, slippage, and intuition—all qualities that have been systematically eliminated by codified systems for the sake of clarity and precision in communication. What might happen if our systematized modes of communication left room for improvisation? By drawing, we can access a primal interface through which we can experiment with alternative ways of relating to each other, and to our world.

Many ideas require a more specific mode of communication to transfer an idea. For example, instructions—i.e. the information we rely upon to construct, assemble, and operate—are dependent on context and legibility in order to be effective. Instructions are optimistic. They are created with accessibility and usability in mind, to establish a common ground for sharing and learning. However, instructions are more often conveyed through modes of language, such as text and code, rather than through drawings. This is because in drawings, meaning-making escapes standardization. As Ikea’s deputy packaging manager, Allan Dickner, once said: “A newspaper in Sweden described Ikea [furniture assembly] as something between civil engineering and captaining a submarine, and I think that’s a good description.”

I’m curious about the convergence of these two modes of communication—drawing, and instruction. How can instructions relay various techniques and skills,

while simultaneously leaving space to accommodate evolution and interpretation?

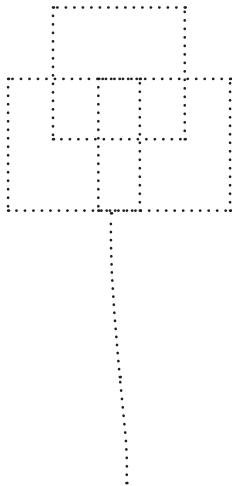
For The Library of Practical and Conceptual Resources, I’ve put together a channel called “Drawing Instructions,” which is composed of a collection of drawing-based instructional methods. It is my hope that these technical frameworks can help us learn to know, think, and imagine in new ways—and can, as a whole, help to expand our knowledge toolkits to be more pluralistic.

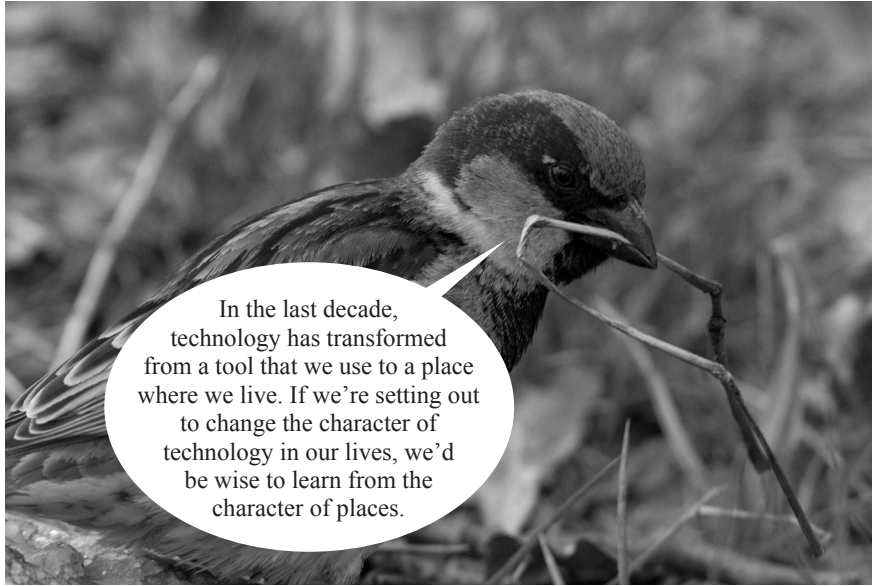
Essay 5:

My website is a shifting house next to a river of knowledge. What could yours be? by Laurel Schwulst

Laurel Schwulst is interested in the poetic potential of the web. She helped create The Creative Independent, including its spiral identity. Currently, she teaches interactive design, practices as Beautiful Company, and writes perfume reviews as Perfume Area.

► indp.co/website





In the last decade,
technology has transformed
from a tool that we use to a place
where we live. If we're setting out
to change the character of
technology in our lives, we'd
be wise to learn from the
character of places.

The Good Room by Frank Chimero, 2018.

2203426

What is a website?

For the past handful of years, I've been teaching courses about interactive design and the internet.

I teach within art departments at universities, so we learn about the internet's impact on art—and vice versa—and how technological advance often coincides with artistic development.

In class, we make websites. To do this, we learn the elemental markup and code languages of the web—HTML, CSS, and some JavaScript.

However, sometimes after the semester is over, I receive perplexing emails from students asking, “So how do I *actually* make a website?”

This sparked my own questioning. “What is a website, anyway?” It's easy to forget. Today there are millions of ways to make a website, and the abundance is daunting. But at its core, a website is still the same as ever before:

A website is a file or bundle of files living on a server somewhere. A server is a computer that's always connected to the internet, so that when someone types your URL in, the server will offer up your website. Usually you have to pay for a server. You also have to pay for a domain name, which is

an understandable piece of language that points to an IP. An IP is a string of numbers that is an address to your server.

Links (rendered default blue and underlined—they're the hypertext “HT” in HTML) are the oxygen of the web. Not all websites have links, but all links connect to other webpages, within the same site or elsewhere.

But my students already know this! So when they ask me about actually making a website, they are referring to a website in the world ... today.

It's healthy to acknowledge today's web is much different than the web many of us grew up using. So when they ask how to make a website (despite having already “learned”), they are alluding to the technological friction and social pressures that often come along with creating and maintaining a website in 2018.

Although they may seem initially accommodating and convenient to their users, universally popular social media sites—like Facebook, Instagram, Snapchat, and Pinterest—are private companies that prioritize advertising above their users' needs. Their users' happiness is not the primary focus, so it's perfectly normal for you to feel anxiety when using or even thinking about social media. In this age of digital cacophony dominated by these

platforms, no one is looking out for you... but you. It makes perfect sense, then, when individuals tell me they want their website to do the job of “setting the record straight” on who they are and what they do.

However, clarity is one of many possible intentions for a website. There are other legitimate states of mind capable of communication—a surprising, memorable, monumental, soothing, shocking, unpredictable, radically boring, bizarre, mind-blowing, very quiet and subtle, and/or amazing website could work. You also need not limit yourself to only one website—as perhaps you’d like to confuse or surprise with multiple.

My favorite aspect of websites is their duality: they’re both subject and object at once. In other words, a website creator becomes both author and architect simultaneously. There are endless possibilities as to what a website could be. What kind of room is a website? Or is a website more like a house? A boat? A cloud? A garden? A puddle? Whatever it is, there’s potential for a self-reflexive feedback loop: when you put energy into a website, in turn the website helps form your own identity.

Why have a website?

Today more than ever, we need individuals rather than corporations to guide the

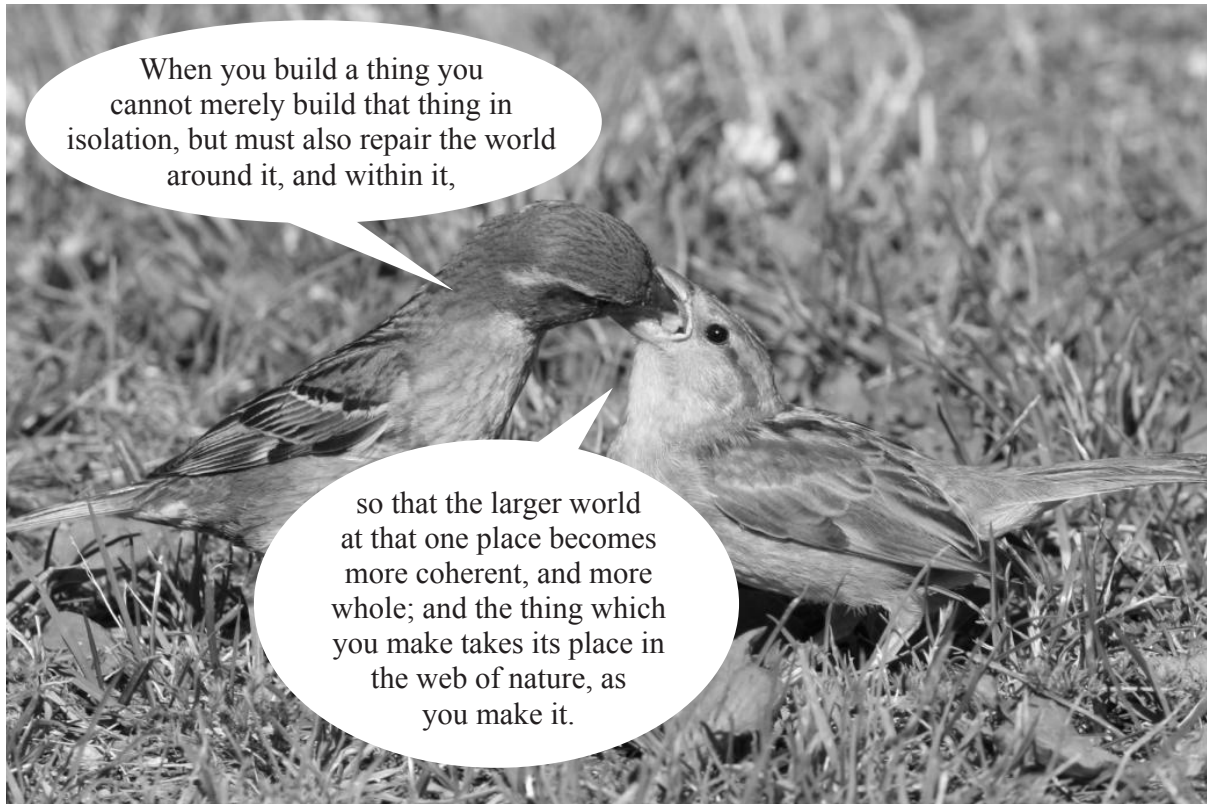
web’s future. The web is called the web because its vitality depends on just that—an interconnected web of individual nodes breathing life into a vast network. This web needs to actually work for people instead of being powered by a small handful of big corporations—like Facebook/Instagram, Twitter, and Google.

Individuals can steer the web back to its original architecture simply by having a website. I think artists, in particular, could be instrumental in this space—showing the world where the web can go.

Artists excel at creating worlds. They do this first for themselves and then, when they share their work, for others. Of course, world-building means creating everything—not only making things inside the world and also the surrounding world itself—the language, style, rules, and architecture.

This is why websites are so important. They allow the author to create not only works (the “objects”) but also the world (the rooms, the arrangement of rooms, the architecture!). Ideally, the two would inform each other in a virtuous, self-perfecting loop. This can be incredibly nurturing to an artist’s practice.

To those creative people who say “I don’t need a website,” I ask: why not have a personal website that works strategically, in parallel to your other activities? How could a website complement what you already do



A Pattern Language by Christopher Alexander, Sara Ishikawa, Murray Silverstein (1977)

2203397

rather than competing or repeating? How can you make it fun or thought-provoking or (insert desired feeling here) for you? How can the process of making and cultivating a website contribute to your approach?

A website can be anything. It doesn't (and probably shouldn't) be an archive of your complete works. That's going to be dead the moment you publish. A website, or anything interactive, is inherently unfinished. It's imperfect—maybe sometimes it even has a few bugs. But that's the beauty of it. Websites are living, temporal spaces. What happens to websites after death, anyway?

What can a website be?

Website as room

In an age of information overload, a room is comforting because it's finite, often with a specific intended purpose.

Simultaneously, a room can be flexible: you can shift its contents or even include a temporary partition, depending on occasion. You can also position elements in spatial juxtaposition, or create entrances to adjacent rooms through links.

In the early days of The Creative Independent, we sometimes thought of TCI's website like a house next to a river. We

considered the interviews the flowing water, as they were our house's nutrients and source of life. We would collect and drink from the water every day. But sometimes, depending on its nutrient makeup, the water would change our house. We'd wake up to see a new door where a picture frame once was. Knowledge became the architect.

Like any metaphor, it's not perfect. For better or worse, it's much more difficult to delete a building than a website.

Website as shelf

Zooming into this room inside this house, we see a shelf. Maybe a shelf is easier to think about than a whole room. What does one put on a shelf? Books and objects from life? Sure, go ahead. Thankfully there's nothing too heavy on the shelf, or else it would break. A few small things will do, knowledge-containing or not. Plus, lighter things are easy to change out. Is a book or trinket "so last year?" Move it off the shelf! Consider what surprising juxtapositions you can make on your little shelf.

Website as plant

Plants can't be rushed. They grow on their own. Your website can be the same way, as long as you pick the right soil, water it (but not too much), and provide adequate sunlight. Plant an idea seed one day and let it gradually grow.



- how to choose a domain name
- how to buy a domain
- how to choose a good domain name provider
- how to choose a good website-hosting service
- how to find a good free text editor
- how to transfer files to and from a server
- how to write basic HTML, including links to CSS files
- how to find free CSS templates
- how to fiddle around in those templates
- how to do basic photograph editing
- how to cite your sources and link to the originals
- how to use social media to share what you've created on your own turf rather than within a walled factory

I think each person who regularly uses a computer should learn the following...

Tending the Digital Commons: A Small Ethics toward the Future by Alan Jacobs, 2018.

2203557

Maybe it will flower after a couple of years. Maybe the next year it'll bear fruit, if you're lucky. Fruit could be friends or admiration or money—success comes in many forms. But don't get too excited or set goals: that's not the idea here. Like I said, plants can't be rushed.

Website as garden

Fred Rogers said you can grow ideas in the garden of your mind. Sometimes, once they're little seedlings and can stand on their own, it helps to plant them outside, in a garden, next to the others.

Gardens have their own ways each season. In the winter, not much might happen, and that's perfectly fine. You might spend the less active months journaling in your notebook: less output, more stirring around on input. You need both. Plants remind us that life is about balance.

It's nice to be outside working on your garden, just like it's nice to quietly sit with your ideas and place them onto separate pages.

Website as puddle

A website could also be a puddle. A puddle is a temporary collection of rainwater. They usually appear after rainstorms. Like a storm, creating a website can happen in

a burst. Sometimes it's nice to have a few bursts/storms of creating a website, since the zone can be so elusive. Some people even call rain "computer weather."

There is also no state of "completeness" to a website, like a puddle, since they're ephemeral by nature. Sometimes they can be very big and reflective. Despite their temporal nature, I've even seen some creatures thrive in puddles. Meanwhile, some smaller puddles may only last a day.

Not everything, even the most beautiful puddle with its incredible reflective surface, needs to last long. If the world doesn't end tomorrow, there will be another storm. And where there's a hole, a puddle will appear again.

Puddles evaporate slowly over time. It might be difficult, but I would love to see a website evaporate slowly, too.

Website as thrown rock that's now falling

deep into the ocean

Sometimes you don't want a website that you'll have to maintain. You have other things to do. Why not consider your website a beautiful rock with a unique shape which you spent hours finding, only to throw it into the water until it hits the ocean floor? You will never know when it hits the floor, and you won't care.

Thankfully, rocks are plentiful and you can do this over and over again, if you like. You can throw as many websites as you want into the ocean. When an idea comes, find a rock and throw it.

The web is what we make it

While an individual website could be any of those metaphors I mentioned above, I believe the common prevailing metaphor—the internet as cloud—is problematic. The internet is not one all-encompassing, mysterious, and untouchable thing. (In early patent drawings depicting the internet, it appears as related shapes: a blob, brain, or explosion.) These metaphors obfuscate the reality that the internet is made up of individual nodes: individual computers talking to other individual computers.

The World Wide Web recently turned 29. On the web's birthday, Tim Berners Lee, its creator, published a letter stating the web's current state of threat. He says that while it's called the "World Wide Web," only about half the world is connected, so we should close this digital divide.

But at the same time, Berners Lee wants to make sure this thing we're all connecting to is truly working for us, as individuals: "I want to challenge us all to have greater ambitions for the web. I want the web to reflect our hopes and fulfill our dreams,

rather than magnify our fears and deepen our divisions."

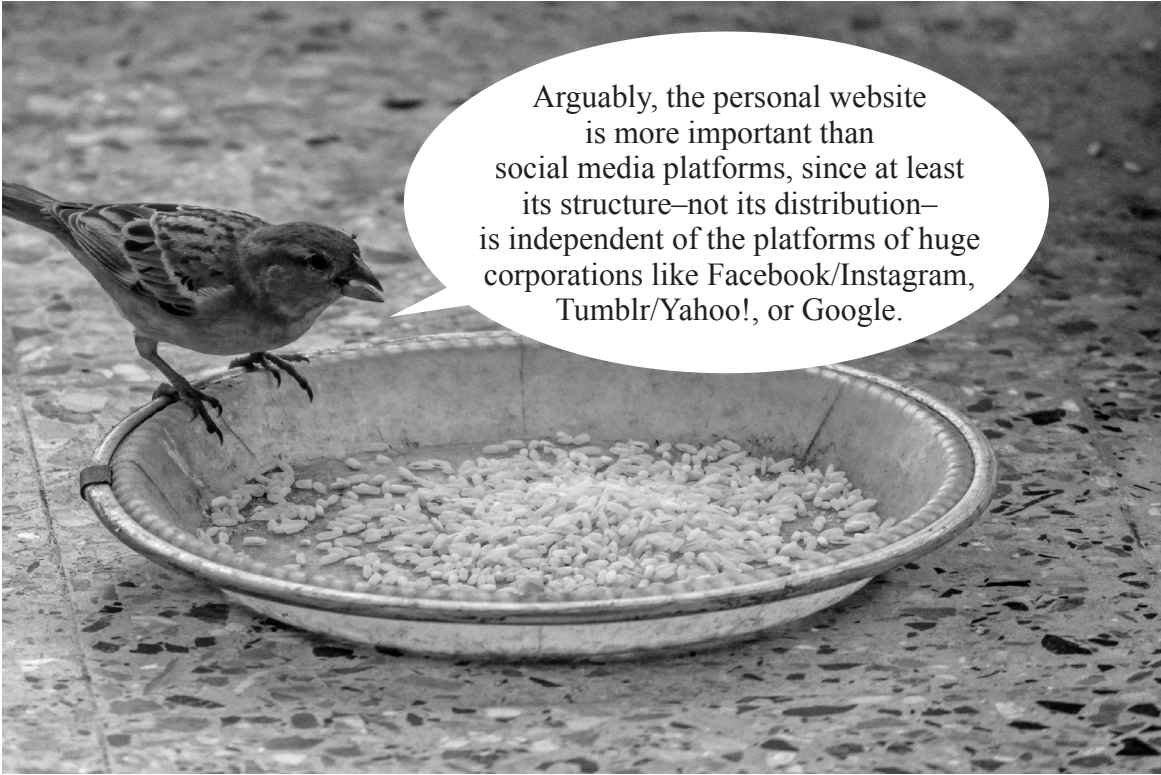
"Metaphor unites reason and imagination," says George Lakoff and Mark Johnson in their book, *Metaphors We Live By* (1980). "Metaphors are not merely things to be seen beyond. In fact, one can see beyond them only by using other metaphors. It is as though the ability to comprehend experience through metaphor were a sense, like seeing or touching or hearing, with metaphors providing the only ways to perceive and experience much of the world. Metaphor is as much a part of our functioning as our sense of touch, and as precious."

Instead of a cloud, let's use a metaphor that makes the web's individual, cooperative nodes more visible. This way, we can remember the responsibility we each have in building a better web. The web is a flock of birds or a sea of punctuation marks, each tending or forgetting about their web garden or puddle home with a river of knowledge nearby.

If a website has endless possibilities, and our identities, ideas, and dreams are created and expanded by them, then it's instrumental that websites progress along with us. It's especially pressing when forces continue to threaten the web and the internet at large. In an age of information overload and an increasingly commercialized web, artists of all types

are the people to help. Artists can think expansively about what a website can be. Each artist should create their own space on the web, for a website is an individual act of collective ambition.

To accompany this essay, I've created a channel on Are.na called "Sparrows talking about the future of the web." There you'll find a handful of quotes from essays that informed this piece.



Arguably, the personal website
is more important than
social media platforms, since at least
its structure—not its distribution—
is independent of the platforms of huge
corporations like Facebook/Instagram,
Tumblr/Yahoo!, or Google.

Scroll, Skim, Stare by Orit Gat, 2016.

2156743

Essay 6:

A harm-reduction guide to using your phone less by Max Fowler

Max Fowler is a freelance programmer and artist living in Berlin. He makes open-source software, interactive installations, and websites. His recent work involves blocking social media, printing it out, reading it out loud and imagining new ways that social networks could work. In the past he lived in New York, co-founded Computer Lab, and participated in the School For Poetic Computation.

► indp.co/phone

I have a fantasy where I'm standing on a cliff overlooking the ocean and with two hands I throw my laptop over the edge. The MacBook leaves my fingertips, and there is no turning back. It's just me, a couple of friends, and the wind from here on out, and we sit in the grass and look out at the ocean. Never again will I click "remind me to update this software tomorrow."



The above is a fantasy which I don't plan on realizing for a variety of reasons, but in the absence of following through on it, I would at least like to look at my phone less. I have a lot of respect for hermitage, deleting your account, and moving to the woods, but 'full isolation' and 'fully connected' are not the only two options. Over the past few years I've experimented with a number of different techniques for partially disconnecting. With the hope that my learnings might be helpful to someone else, or that they might at least serve as a jumping-off point to try something new, what follows is a harm-reduction guide to using your phone less.

Freedom through constraint

It's not that it's impossible to not look at your phone when you're thinking about it—

it's more that in the times we're not thinking about it, our habits act as the auto-pilot.

Even when you're not looking at your phone, the possibility of distraction can create a particular feeling. People seek different environments for different activities (this is why libraries are so quiet), and if an internet-connected device is always in your pocket, it has an effect on every environment you experience. Is this really what we want?

When social media isn't at my fingertips, at first I experience a bit of withdrawal. But then the world begins to feel more full to me.

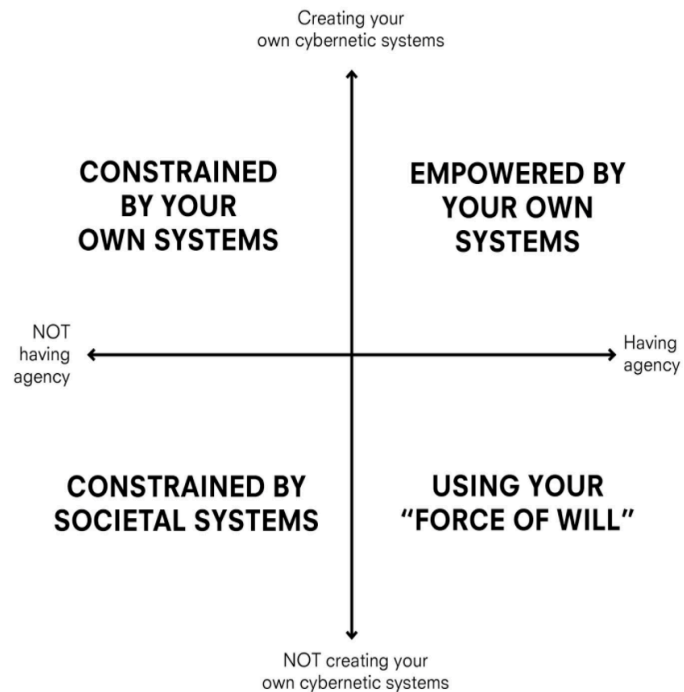
I have a distinct memory from two years ago of eating lunch with a friend in a park in Chelsea, NY. As an experiment, I was using a flip phone for the week. It was pretty inconvenient, and only worked because at that time, my schedule didn't require much on-the-go planning. But that day, sitting in the park with my friend eating lunch, I felt present in a way that stayed with me. There was so much space—as if it was just the two of us and there was nothing else.

Since then, I have experimented with a number of different ways of making disconnection part of my life, while not giving up on connectedness entirely.

I like being able to use Google Maps when I'm lost, and I learn a lot from the

internet, but for me, having access to ‘all the applications all the time’ feels like a bad design. What’s more, an always-accessible device that fits in your pocket can build compulsive habits. More use is always better for the company selling you the product, but not always for you.

In the words of Tristan Harris, the founder of Time Well Spent, “You could say that it’s my responsibility [to exert self-control when it comes to digital usage], but



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that's not acknowledging that there's a thousand people on the other side of the screen whose job is to break down whatever responsibility I can maintain.”

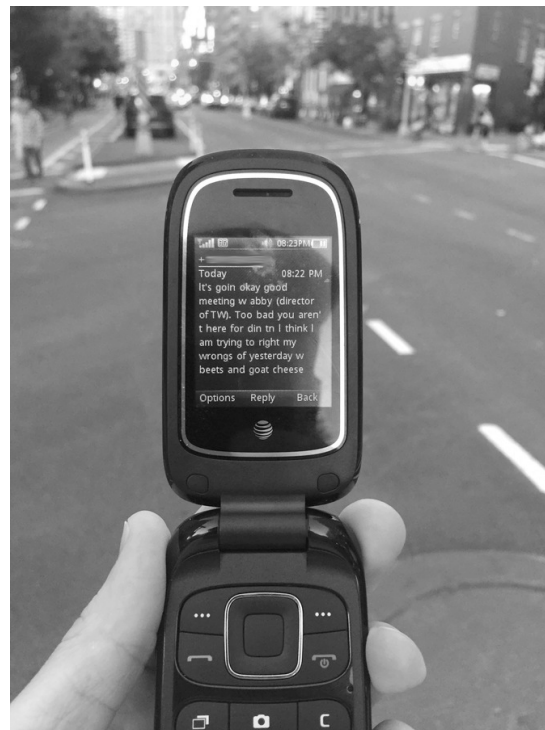
Looking away from the screen opens up new space for thought. In this way, perhaps the reclaiming of your own attention from the companies trying to monetize it could be a radical act (or, at the very least, it could be a small thing that makes your life better).

Dan Taeyoung and I created the 2x2 on the previous page as a framework for thinking through agency, systems, and freedom through constraint. Using it as a framework, what follows is a combination of tools and practices for finding disconnection. You can also ignore the theory, and just try things for yourself.

Tactic 1: Just not using your phone as much

With perfect mental discipline, perhaps we could just think, “I would like to look at my phone less,” and that would settle things. This may be possible for some people, but for me I've found it to be more complicated.

If you are someone who sometimes finds you have a negative relationship with your phone, or ever find yourself thinking, “Why am I scrolling through this feed right now,” other tactics in this guide might be more helpful.



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Tactic 2: Buying a dumb phone

Two years ago I tried using a “dumb phone” (an AT&T flip phone) for one week. There were a lot of things I liked about it, but on-the-go planning and navigating was definitely harder, especially when everyone else expected that I’d be able to make plans through text message and find any address on the fly.

Depending on what’s happening in my life, I could see using the dumb phone again. Despite the inconveniences, my experience with the dumb phone inspired me to seek out more ways to find disconnection. It felt good to leave my iPhone at home in a way that I never felt just leaving the iPhone in my pocket.

Tactic 3: Pin friend (for iPhone)

This is my favorite method and the method of disconnection I currently use. The idea was born out of really enjoying using a dumb phone, but finding it difficult to navigate without Google Maps. I wondered, “Is there a way I could have a phone that just offered texting, phone calls, and maps?” It turns out, there is:

Using the iPhone Parental Restrictions feature you can set your phone so that you can’t install new applications and can’t use Safari.

Before enabling the above restrictions, I install just the applications I want to be able to access all the time (for me this is Google Maps, Simplenote, Venmo, and Lyft). Then I ask a friend to child block my phone for me using a pin that I don’t know. Not having Safari is sometimes inconvenient, but I find most things really can wait until I am back at a computer, and to me this inconvenience is outweighed by how it makes me feel overall.

If I ever want to change my app settings, I can always text my friend and ask for the pin—but for me, I find this social layer makes a big difference.

Tactic 4: Freedom (for iPhone, Mac, or Windows)

Freedom is a paid service that allows you to block internet access to particular domains. This app also enables you to create different settings and schedules for your phone and your computer. The service uses a VPN and works well. I find it similar to child-blocking my phone (which is free), but it gives you more fine-tuned control over what you’re blocking. It would also be interesting to create a Freedom setting and then ask a friend to set a password you don’t know.

Tactic 5: Do Not Disturb (for iPhone, Android)

If you're not putting your phone in Do Not Disturb (or Airplane Mode) before you go to sleep, you are committing self harm. Waking up from an Instagram notification is not worth it.

If you can, I would also recommend keeping your phone in Airplane Mode during your morning routine. Two years ago I made a commitment that for one week, instead of checking Facebook as soon as I woke up, I would get out of bed and meditate for 10 minutes. I found I really liked starting the day this way, and I have continued to do it ever since.

Tactic 6: Camping

This is not new, but sometimes it's worth revisiting the obvious. If you have the privilege to be able to truly remove yourself from the grid, even for a short period of time, nature is really nice. It's kind of like society, but better in most ways. You can set an auto-response saying when you'll be back on the grid, and then leave your phone in your bag the whole time (unless you have some kind of emergency).

Tactic 7: Pasta box as Faraday Cage

I found that sometimes I enjoyed that there was no cell phone service in the New Museum's basement. I dreamed of building my own Faraday cage.

To simulate a Faraday cage without totally encasing my apartment in steel, I put an empty pasta box on a table next to my front door. When I entered my apartment, I would put my phone in the box to create the sense that I was in a room without service. I imagine it would be nice if there were more spaces and rooms where leaving your phone outside was a suggestion similar to taking off your shoes.

More tactics: Honorable mentions

I won't spend time explaining each of the disconnection techniques listed below, but they're all worth a look:

- Light Phone — a minimal phone
- Lock Me Out — an Android app that lets you block apps for periods of time
- Kill News Feed — a Chrome extension that blocks the Facebook news feed
- Self Control — a Mac application that blocks domains for periods of times

- Redirector — a Chrome extension which you can use to literally redirect Facebook to another page (which is an apt metaphor for rewiring habits)

Tactic 3,247,284: Compassion

Like any self-help practice, there is the risk that suggesting a way to change could lead to judgment of the self or others.

Using your phone and not using your phone can both be good decisions, but I hope to encourage mindful consideration of when we are using our phones. And if you would like to try to use your phone less, I hope these ideas can help.

**

On June 4th, Apple announced a new set of features being released with iOS 12 to help reduce interruptions and manage the amount of time we spend with our phones. It sounds like the new features could pair nicely with the ideas in this essay, but it will be interesting to see how they are used. This guide is not an endpoint. Over time I hope to continually ask the question of when and how I need to be connected, and how I can find time away—whether that's by taking out my neural implant or by putting my iPhone under water.



White Sands, New Mexico. Photo taken by Catherine Schmidt.

2151526

Essay 7:

On observing time by Jon Gacnik

Jon Gacnik is a programmer and designer based in Los Angeles. He is a partner and technology director at Folder Studio, where they design books, build websites, and explore idiosyncratic archives. He also builds, maintains, and contributes to a variety of hyper-focused projects in open-source web communities.

▶ indp.co/time

Over the past few years I have spent increasingly more time out in the San Gabriel Mountains. This range borders the Los Angeles basin, with the California State Route 2 highway cutting up from Echo Park and slicing the Angeles National Forest out to the Mojave. It's a bizarre environment, where shaded fern groves hide behind the bend and chaparral yuccas bloom alongside coulter pines, all while the basin cooks below as it sprawls towards the Pacific.

One of the more prominent peaks on the western end of the San Gabriel range is Mount Wilson. This mountaintop is home to a dense collection of various antennae, servicing public, private, and military interests (almost every Los Angeles-based television station broadcasts from here). Alongside and predating this radio garden sits George Ellery Hale's Mount Wilson Observatory. A place of exceptional astronomical significance, the observatory's grounds are home to two particular telescopes—60-inches and 100-inches each—both of which were the world's largest at one point in time. Edwin Hubble used the 100-inch Hooker telescope throughout the 1920s to discover that the universe does extend beyond the Milky Way galaxy, and later, to find that the universe itself is forever expanding.

My interest in what goes on at Mount Wilson developed when I learned that the UCLA Department of Physics and Astronomy operates a camera mounted

on top of the 150-foot solar tower at the mountain's summit (there are a handful of solar towers up there, as Hale initially constructed the observatory for the purpose of researching the sun). The output of this mounted Olympus SP-350 camera, known as the Towercam, is publicly accessible through a website on Mount Wilson's web portal. These days, the camera is usually pointed east towards the greater San Gabriels. Waterman, Twin Peaks, and Baden-Powell are some of the mountains sitting in the background of the camera's view, while the 100-inch telescope dome sits squarely in the foreground.

The still image broadcast from the Towercam refreshes on a two-minute cycle. Depending on the time of day, season, or conditions, the quality of the images captured by the camera range from 90° sunshine-induced clarity, to shrouded mist, to solid black with speckled artifacting.

With Wilson's Towercam only a browser tab away, I found myself frequenting the camera's view. Peeking at current conditions out in the San Gabriels tended to make the current condition of sitting at my desk feel a bit better. Over the course of what became daily visits to the Towercam website, I began thinking about time. Specifically, I appreciated that the two-minute refresh rate of the camera's image is a cadence significantly slower than the responsiveness we usually experience online.

UCLA Department of
Physics and Astronomy
Apr 20 15 05:55:34



Mount Wilson

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I also appreciated that the Towercam's output reinforces the 24-hour cycle of a day. You can't log on to the Wilson portal at 2 a.m. and get "fresh content;" you'll get a black frame. And you'll continue to get a black frame until the sun rises. Beyond that, the image changes by the season. Further still, we're watching mountains—ever-shifting and growing over millions of years. These natural cycles operate unhurriedly.

Our internet, on the other hand, tends to be in quite the hurry. The pace and fervor found online like to keep anxiety company. The internet we are marketed to use is a perfect storm of interface design in the service of an attention economy. It's dialed-in. Basically, the "feed" as an interface works. "Pull-to-refresh" as a serotonin booster works. I suppose this is why the Wilson cam particularly struck me as a contrast. Continually refreshing an image that simply reflects the natural landscape in the current moment won't deliver anything new—at least nothing newer than the newness of time itself moving forward. In this way, the Wilson cam illuminates our faulty rewiring. Despite the abhorrent urgency our interfaces demand of us, the natural environment continues to move at the same unhurried pace.

A couple months back a friend and I spent a few days hiking the Trans-Catalina Trail. This trail is 38 miles out on Catalina, an island off the coast of Los Angeles. Our route stretched from east to west—or from

Avalon to Starlight Beach—and took us along 10,000 feet of accrued elevation gain over the course of 50 miles (our completionist mindsets required us to continue past the official trail's terminus, to the westernmost hikeable tip of the island, where bald eagle nesting grounds lay).

Hiking 50 miles requires one to spend a decent amount of time walking. Perhaps the length felt more drastic knowing we were walking the length of an entire island, from one end to the other. Over the hours of walking, I found myself thinking again about time—and especially about its relationship to the human scale. You can't walk a mile as fast as you can scroll one. But when moving yourself physically through space, you are also much more aware of how fast and how far you walk (your body certainly remembers to remind you). I suppose there's an honesty in walking. Our bodies limit how far we can see and how quickly we can get there. We physically have to pace ourselves so we don't just keel over.

Conversely, when we "walk" the net, we're moving through a boundless space devoid of touch points. Understanding scale in relation to a space like that becomes a lot trickier. I often think about a line from Peter Lunenfeld, a mentor of mine, which goes, "The infoverse may be infinite, but our allotment of days is not." We ought to be conscious of how far and how quickly we move through the internet. But without a physical way to observe our time spent

online, we risk scrolling, skimming, and hyperlinking ourselves to oblivion.

The internet isn't only composed of breathless fervor. Corners of the internet continue to operate slowly. The Wilson Towercam website is one example. Personal websites are another. Traditionally, the personal website is a format which has an inherent human scale and pace. A website with a single person behind it to author both the code and the content is not too unlike the ever-shifting and growing mountains, which build up and evolve slowly over time. Recently I've found JR Carpenter's term "handmade web" particularly poignant, which she uses "to suggest slowness and smallness as forms of resistance." I like the thought of maintaining a personal website by hand as a form of "resistance" against the dialed-in, attention-hoarding interfaces we are continually served. (It's certainly a more reasonable form of resistance than hiking 50 miles on an island.)

Over a recent weekend I attended a lecture by geologist Tanya Atwater, known for her pioneering work surfacing the tectonic evolution of western North America. She was speaking about the formation of the California coastline along the San Andreas fault. As the fault shifted over the millennia, a chunk of earth got snagged and floated 90 degrees clockwise, forming today's Santa Barbara and opening up what is now the Los Angeles basin. This occurrence also had a



Mauna Loa

2411080

happy counter-effect of forcing up a block of the Earth's crust, which would come to form the San Gabriel mountain range.

I was there at the lecture mainly to learn about the geological history of the San Gabriels, but was struck again by the idea of duration. The entire lecture was delivered in time frames of millions of years, each just a geological blip. By that measure, our already laughably short attention spans become that much more silly.

Of course, the internet is neither a mountain nor a tectonic plate. Its very nature is to move at the speed of light, and it will move more quickly than a chunk of earth no matter how we build it, or what we compare it to. My thought is more about relative slowness. What is a healthy pace for your own personal use of the internet, relative to the pace of the internet you have been conditioned to expect?

I still spend the better part of my days making things for the internet. Despite frequent frustrations and ill-effects, I continue to hold a fascination with the internet's past and future. Our hands are critical in its growth. Walking, thinking about mountains, and observing the Observatory—these actions simply provide contrast. And while the speed of the current net often appears to adversely affect our sense of time and our anxieties, it is difficult to say where that settles over the millennia. But in the midst of the state of things, it's

nice to remind ourselves of the slow and quiet corners hiding in the folds of the net—like the Wilson Towercam—and to hope that we might continue to build them.

For the Library of Practical and Conceptual Resources, I've assembled a collection of slow-refresh-rate lookout webcams. Many are mountain cameras, used primarily for monitoring weather conditions, like the one atop Mount Wilson. Perhaps one or two might let you pause and think for a moment about the pace of your environment and the pace of your internet.



Asama

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Essay 8:

How to make research-driven art by Caroline Sindere

Caroline Sindere is a design researcher, artist, and digital anthropologist. Lately her work and creative projects have focused on the intersections of research, artificial intelligence, and online abuse. As a BuzzFeed/Eyebam Open Labs fellow, she's focused on researching violence and machine learning systems as a way to analyze harassment.

► indp.co/research

I started my art career in a space that already felt like the middle of a Venn diagram: photojournalism. What did it mean to sit between the medium of photography—decidedly now an art form, although historically it was considered a science—and journalism, which is not an art form but rather the act of researching, reporting, and documenting the truth?

To me, photojournalism felt like a space in which truth could be embodied in an image, and the image could resonate with us, sit with us, and show us. In this way, it felt like art—but also like something else.

Photojournalism has a specific purpose, and a specific intent. It is a way to use art to uncover, document, and share truth. I don't consider myself a photojournalist anymore (I now make art with and about technology), but I haven't forgotten the teachings of this intent-driven photojournalistic practice. These days, I still think of myself as someone who seeks to capture truth, much like a photographer does—just without a camera.

As I've moved away from photojournalism, I've applied its frameworks towards a new methodology I call “research-driven art.” Like photojournalism, research-driven art uses specific structures and a sense of purpose to constrain it. These constraints work much like a skeleton works: while they stabilize the practice just as a rib cage stabilizes a body, they do not define the

entire practice, nor keep it from moving and flexing on its own. In this way, the research I do stabilizes and shapes my art, but does not dictate the outcome.

As I've continued to develop my practice of research-driven art, I've decided that the outcome (i.e. the manifested artwork) can be anything that helps externalize my intent: a tweet, a series of unique works, a data set, an essay, or anything else that manifests research and the exploration of an idea into a creative form that other people can access.

As I've made decisions about what research-driven art can and cannot be, I've thought a lot about how other artists make work with a sense of intent. Tania Bruguera, the creator of Arte Útil (“utilitarian art”), uses art as a tool to accomplish an intended outcome. My work moves in the opposite direction: I start with an intent, and then use art as a tool to enable research and exploration around an idea. The art I make is less about accomplishing a goal, and more about exploring and uncovering a form of truth.

Bruguera writes, “Useful Art’ is not something new... it is a practice that has become a natural path for artists dealing with political art and social issues. All art is useful, yes, but the usefulness we are talking about is the immersion of art directly into society.” This utilitarian, socially minded approach to art-making calls to mind Ana

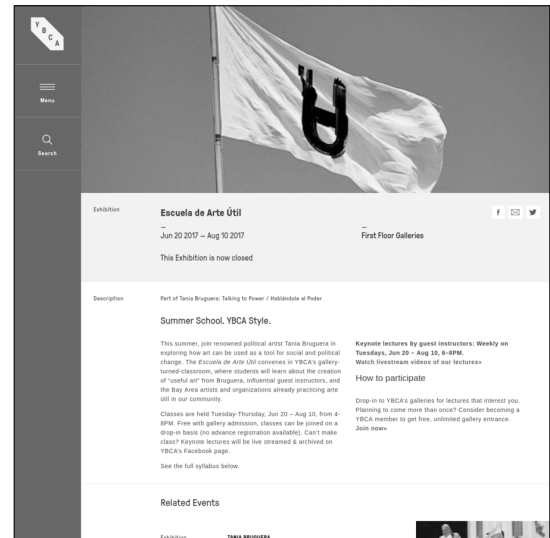
Cecilia Alvarez & Victoria Campbell’s “Sex Ed” classes held at BHQFU and elsewhere.

Cecilia, a writer and educator, created a series of workshops exploring sexuality with the ultimate goal of producing a communication-based, pleasure-oriented, and politically engaged course about sex and sexuality. In my mind, these workshops count as both a manifestation of art-driven activism (Arte Útil), and as research-driven art. Again, art doesn’t have to be an object—with research-driven art, an “artwork” can take the form of a workshop, a presentation, a manifesto, a class, or a school—anything that manifests research and knowledge.

I love the description of Alvarez and Campbell’s “Sex Ed” workshop because of the care with which it was written, but also because of the breadth of knowledge and research it exudes. It feels charged, activated, and intent upon driving equity in a space that all too often gets co-opted by political agents:

Workshops will be fun, rigorous, safe, and sexy. Each theme will be an attempt to make sense of—in critical terms—sexual relations on a social or cultural scale. While there will be “theory” involved—and some theories more than others—our approaches will be propelled by the ways in which we can translate concepts into questions, and questions into practices. How can we orient our sex lives around pleasure and intimacy, rather than

capitalist structured patterns of gains and losses? How can we undo not just the structures of domination aimed at our own bodies, but also those aimed at repressing the possibilities between bodies? How can we be more deliberate with one another? And more responsible for one another?



YBCA: Escuela de Arte Útil

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This is a perfect example of research-driven art, as it creates space for intent-driven research and exploration to take place. There are many other examples of research-driven art that inspire my practice. A few of my favorites examples of other artists/collectives that take a similar approach are Jenny O’Dell, Hyphen Labs, Mimi Onuoha, Adam Harvey, Heather Dewey-Hagborg, Auriea Harvey, and the work of Forensic Architecture. All these artists use research as a tool to guide their practice as a whole, as well as to structure the pieces they create.

How, exactly, do you create research-driven art?

A research-driven artwork generally progresses in three stages. At the beginning, it’s about having the intention to explore an idea, and then (you guessed it) researching that idea. The middle stage focuses on moving and shaping an idea as you learn and explore. This part of the process is gray, beautiful, and middling—you have to follow where the idea leads. Lastly, it’s about considering possible manifestations or outputs that feel appropriate for containing and sharing the body of knowledge you’ve accrued. This manifestation should be greatly shaped by the research and guided by the question(s) you’re seeking to answer (i.e. your intent). The whole research-driven art process is about building a foundation of knowledge and exploration, and then

constructing a manifested “artwork”—which can be anything—on top of that.

Here’s a taxonomy outlining best practices for making research-driven art:

Constrain your intent

- Define what you’re looking to explore: is it something open-ended, like a question or a topic? Or is it something more specific, like a data set or a specific place?
- While you don’t need to set out with any intended outcome (this isn’t Arte Útil, after all), it can be helpful to loosely consider what you’d like to accomplish.

Go deep and wide with your research

- Focus on a set of core questions, but also give yourself time to chase small threads.
- Build out your research and your argument almost like a skeleton: the bigger or more related questions will make up the ribs, the spine, and the legs, but every big project will have smaller pieces of related information and questions (the finger and toe bones, if you will).

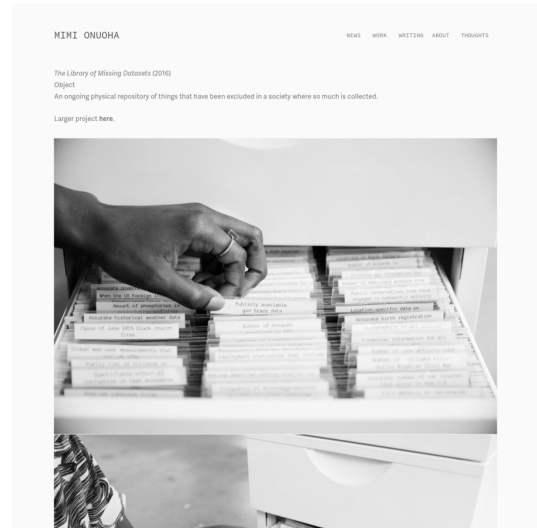
- Talk to experts. Is there someone whose work seems somewhat related, albeit tangentially? Talk to them to dig up related ideas.

Consider your research methodology

- Will you be able to defend and backup the findings in your research?
- What are your sources? Are they balanced? Are they trustworthy?
- Could someone else replicate your findings?

Collect ephemera

- As you research, create lists, collect post-it notes, write down and review the questions you've had, record conversations with experts (let them know you're recording), take screenshots, conduct polls, and even ask your friends questions.
- Create an archive or database to collect your ephemera—later, this may become part of your manifested artwork.



The Library of Missing Datasets. Website of Mimi Onuoha, artist/researcher.

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Group and analyze the ephemera

- This is the hardest part—as you wind down your research phase, take a bird’s-eye look at everything you’ve collected. Try to see what patterns or stories are emerging.
- Think about how to group it, how to store it, what seems most important, how it could make sense to share it, etc.

Lastly, manifest your research into something

- This “something” can and should be anything: a GitHub repo, a workshop, a presentation, an essay, a video game, a poem, a sculpture, an article... the list goes on. Deciding on the form of your art is completely up to you.
- Share what you’ve made with others. As I see it, the best research-driven art is a manifestation of a body of research that will be helpful and interesting for others to engage with.

As you consider how to manifest an intent into a finished work of research-driven art, I recommend thinking about how you can most fully interrogate the idea you want to explore. Challenge yourself to fully embody it, and push it to extremes.

If there’s any takeaway I hope people get from my practice of research-driven art,

it’s that as an artist, you’re not just limited to creating art objects. Instead, your art practice can manifest itself in many, many different ways. Think of your research as part of the artwork, not just as a means to an end, or as the discovery process for finding an ultimate answer. There’s so much richness and value in spending time researching, and the exploration of an idea can be a creative act in and of itself.

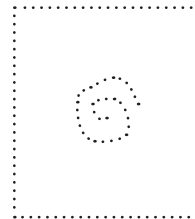
For the Library of Practical and Conceptual Resources, I’ve collected examples of successful research-driven art for you to explore.

Essay 9:

A charming conversation between you, a computer, and me by Pirijan Ketheswaran

Pirijan Ketheswaran is a designer, engineer, illustrator, and (sometimes) artist. He is trained as a biologist, but nowadays he works as the co-founder and interface creator of Glitch, a friendly community of creative app-builders.

▶ indp.co/computer



Recently, I got invited to—and trashed at—a wine festival. It was, of course, Instagram bougie. But also maybe profound.



We talked to winemakers and importers at their booths, they drank with us, and between pours they told us about how they made their wines, what each wine paired best with, and which grapes they were most proud of. We asked them what their home countries were like, how they got into wine, and did they like swimming? If they could only drink one or the other, would they go with wine or coffee? It all got a bit blurry.

To be honest, I remember the people more than I remember the wine. But it got me thinking about how all memorable conversations have a few things in common:

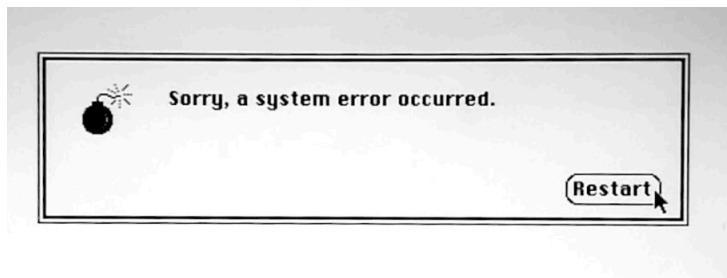
- You feel like your input and creativity are valued
- It's more than transactional: informal chats can still be fun and sincere
- It isn't just “professional,” but rather intimate and vulnerable as well
- The overall feeling behind the conversation matters more than its specific content

Conversations come in many forms, the least considered of which are our interactions with software. People tap and click Graphical User Interfaces to share their feelings, get things done, express their creativity, or just to kill time—many of the same things that might happen in a conversation between actual people. So what if instead of designing user interfaces to be merely transactional or professional, we designed them with the qualities of memorable conversations in mind?

As interface makers, we have a status-quo design for most things. It's easy to hit that benchmark. But we can go further and aspire to build things that connect people with each other in more unique and meaningful ways.

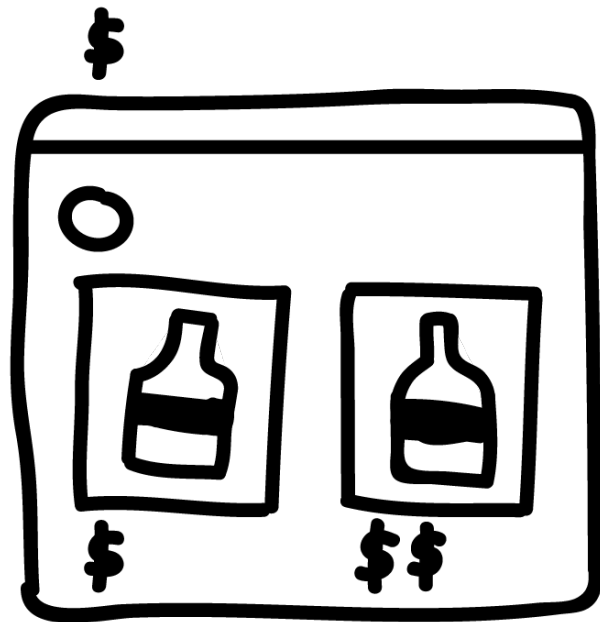


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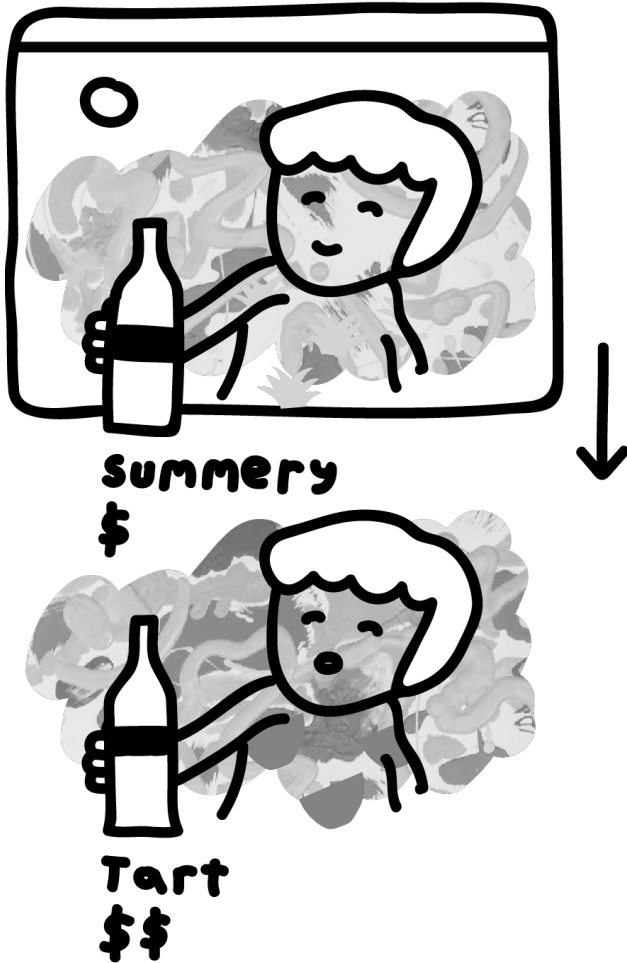
For example, here's a website for buying wine:



It's easy to use, and it puts the content first. It's... there.

While I still don't know much about wine, I learned that every great wine has a story to tell. And, there's a person behind each bottle. Winemakers spend a lot of time thinking about the design of their bottles because they want to stand out by expressing something unique about themselves.

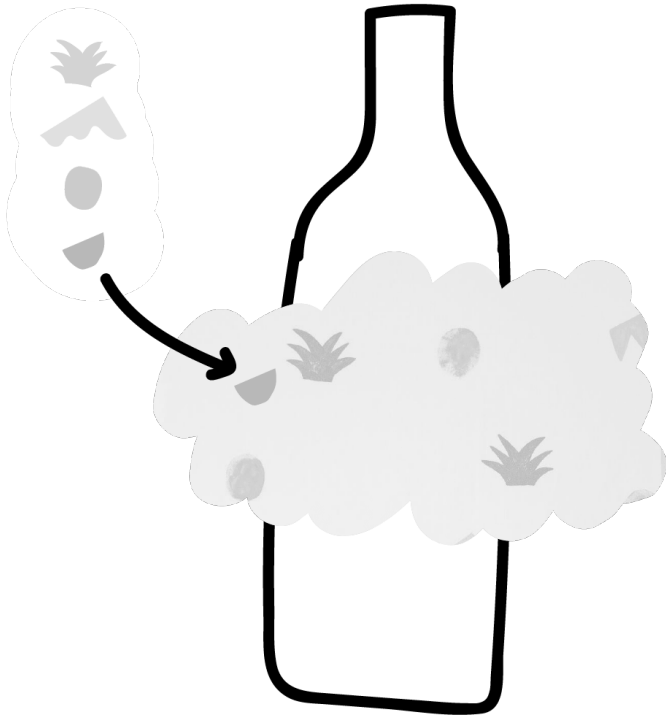
Let's be like winemakers and make a website for buying wine that makes
you feel something:



A meaningful conversation IRL is not just you telling me what you want, or me telling you how I feel. Conversations are creative and collaborative. You should feel like your input matters and that you're more than just a consumer being sold a product or idea.

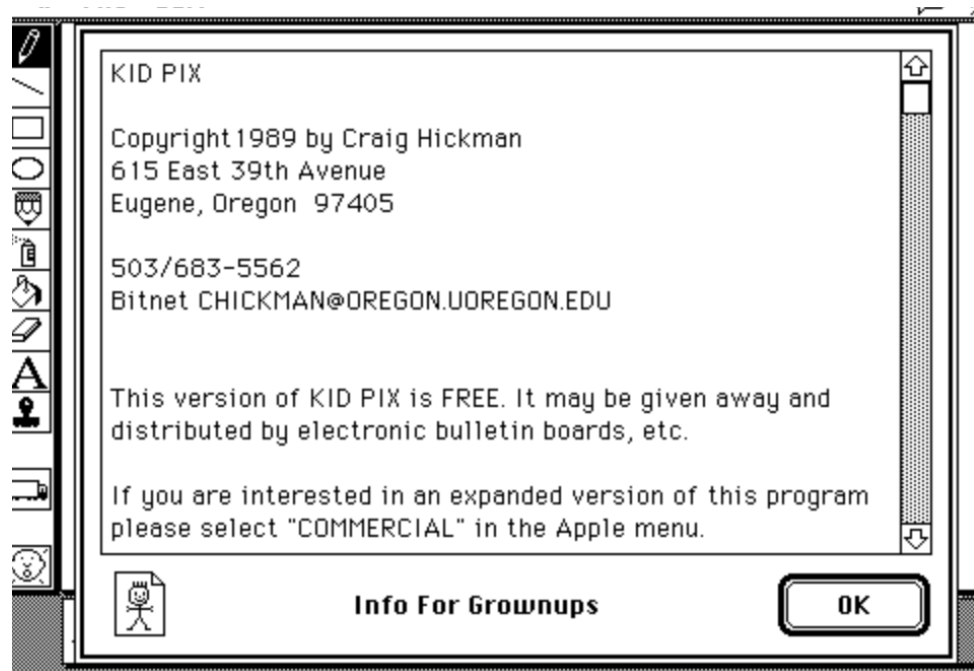
As software designers, we can use the interactivity of our medium to mirror the qualities of a good conversation. For example, we could add a small yet creative stamp-maker to our wine website, so that visitors can add their own personality and flair to a bottle's label.

Customize Label



Maybe this approach to making interfaces is a little different, a little weird, or extra work. But as we continue to define this new web-based medium, we're standing on the shoulders of the many creative tools that took this conversational spirit to heart.

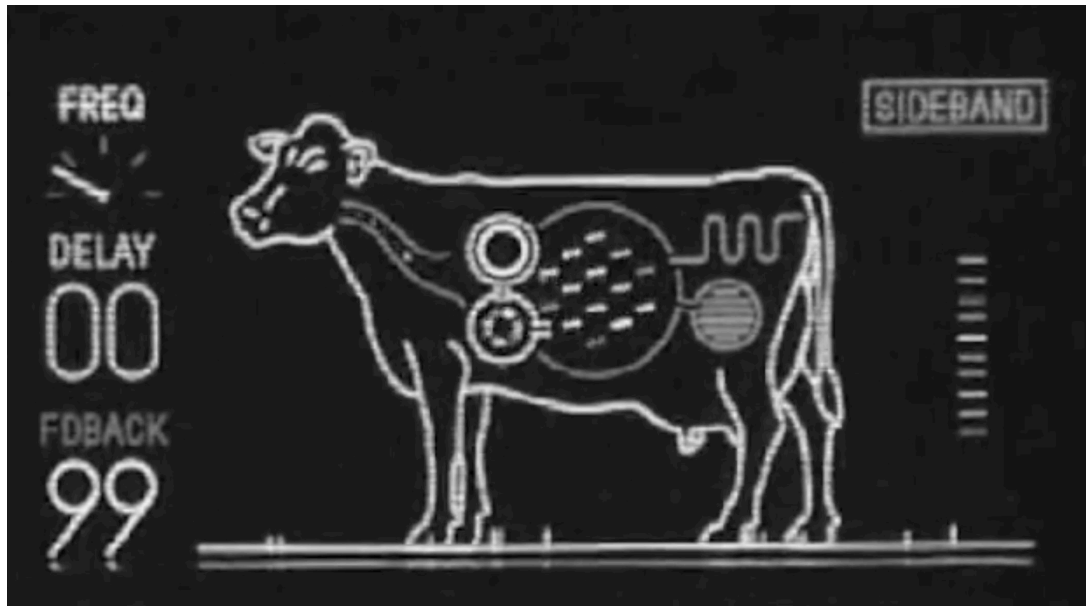
For some inspiration, you can look at drawing tools for kids (and the young at heart):



I've always liked the label "Info for Grownups" on this dialog. To me it says this info doesn't really matter, have fun someplace else. I wish we treated our ToS and other legal stuff with similar levels of levity

1975350

Music synthesizers:



teenage engineering OP-1 screen capture #2

2826437

And this calligraphy app from the '90s (probably) with an integrated stamp editor:



You can find more great shoulders to leap from, and maybe cry on, while you make your own memorable interfaces at the Are.na channel I've made for the Library of Practical and Conceptual Resources, called "A charming conversation between you, a computer, and me."

Essay 10:

On building knowledge networks by Édouard U.

Édouard U. thinks a lot about the future, and is interested in infrastructure design.

▶ indp.co/networks

Over a year ago, I wrote a small reflection on building networks of meaning within my mind. This written reflection, “Reading Networks,” captured a mindset I’ve brought to nearly everything I’ve wanted to understand in the world: “Nothing exists in isolation.”

I’d like to revisit a few passages from my original text here:

While texts often build and maintain an internal and pre-set collection of references in the form of footnotes, prior foundational texts, or subtle cultural “calls” to “events or people or tropes of the time and place the text was written,” it’s a far more personal practice to form one’s own links in an inter-textual manner.

I’d like to think that building your own reading networks can foster a method of building personal abstractions, building personal relevance to any given topic, and improving the methods by which you consume others’ ideas and structures.

I believe conceptual isolation creates the death of meaning. For as long as I can remember, I’ve felt discomfort towards the feeling of being cognitively hemmed in or “led along” in a linear manner. In my experience, compartmentalizing and segmenting our stories and observations of the world builds walls that are hard to tear down. When ideas and the concepts they form are isolated (within an individual,

I generally have four or five books open around the house—I live alone; I can do this—and they are not books on the same subject. They don’t relate to each other in any particular way, and the ideas they present bounce off one another. And I like this effect. I also listen to audio-books, and I’ll go out for my morning walk with tapes from two very different audio-books, and let those ideas bounce off each other, simmer, reproduce in some odd way, so that I come up with ideas that I might not have come up with if I had simply stuck to one book until I was done with it and then gone and picked up another.

So, I guess, in that way, I’m using a kind of primitive hypertext.

– Octavia E. Butler

2624915

amongst a small group of people, or even within a larger group), they converge into singular modes of thinking, preventing exploration and divergence from happening.

My methods for avoiding this type of linear constriction have been simple: Read two or more books at the same time, always. Reject the closed-universe-on-rails nature of every single film ever made, and when possible, use the Wikipedia-while-watching technique to keep connecting the dots as I go. Always encourage myself to follow footnotes into rabbit-hole oblivion. Surf—don't search—the web. Avoid listening to music simply to listen to music. Instead, intentionally mix and match sounds and styles as one might mix ingredients within a recipe.

In forming this methodology of immediately and intentionally interrelating the cultural input my mind receives, I've nurtured the ability to form very distinct pockets of personal meaning across time and space. While I believe all peoples' "meaning-making" function operates in an ever-connecting manner, very few tools exist to support and nurture this reflex. While the nature of the web has normalized network-based thought/exploration patterns through the sprinkling of hyperlinks throughout text, most learners have yet to experience radical departures from the linear narrative. Platforms like Are.na and Genius and Hypothesis help us along, but we have a ways to go.

How can we teach people to draw in the margins of their books? To communicate with authors hundreds of years dead? At what point might conspiracy-theory mapping with push pins and thread become a more common learning technique for students, to encourage them to make their own connections and find their own lines of meaning?

It took me many years to develop and find pleasure in the habit of co-reading books. As I've continued this practice, "personal abstraction(s)" has become my preferred term to describe the ideas and artifact(s) gained from taking a networked approach to reading. Most people are likely to call this stuff "knowledge," since humans obviously need to come to some sort of agreement on our shared definition of reality to get anything done. But before they were melded into our collective consciousness, all abstractions and pieces of knowledge were once personal—woven within the mind of an individual, or a set of individuals in parallel—and only then distributed across time and space to be shared.

For the Library of Practical and Conceptual Resources, I am assembling a revisitation of how one might learn to construct their own knowledge networks. Additionally, my Are.na channels dedicated to networks of knowledge around books, essays, and movies are examples of how one might begin to assemble and intertwine small,

personal, and intimate networks around established forms of knowledge.

While my own methods for learning new things is constantly evolving, developing “personal abstractions via personal knowledge networks” has never failed to keep me wandering.

Gardening techniques

Learning and memory are by default automatic processes; their efficacy is proportional to the relevance that the thing to be learned has to your life (frequency, neurons firing together, synaptic pruning, interconnections, etc.). You could say that this relevance acts as filter for incoming information.

There are reasons why you might want to sneak information past this filter (“artificial learning”):

1. To learn abstract knowledge that is far removed from daily life (e.g. math). This is done using analogies, mnemonics, examples, anthropomorphism, etc.
2. To interfere with the process of “natural learning” with the goal of improving learning mechanisms, for example when learning a skill like playing the piano. This is done using deliberate practice, analysis, etc.

See these methods as gardening techniques. We either let the garden of the mind grow naturally or we sculpt it deliberately.

- Uploaded to Are.na by Nikolai Sivertsen

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and too little structure. With too much structure, young people can't work on what they want to work on. With too little structure, many aren't able to come up with ideas or follow through on ideas. Karen rejects the idea that structure and agency should be seen in opposition to each other. She argues for the "best of both worlds," proposing learning environments that "employ structure in a way that amplifies learner agency."

Jay Silver has addressed similar issues while developing invention kits for kids (such as Makey Makey, which he co-invented with Eric Rosenbaum). Jay wants his kits to be open-ended so that kids can invent whatever they imagine, but Jay also recognizes that some kids need more structure and support as they are getting started. For many people, there's nothing scarier than a blank page (or blank canvas or blank screen) at the start of a creative project. So Jay aims to create learning environments that are "closed-started" while remaining open-ended—that is, environments that provide more structure or scaffolding at the start of a project, but without restricting learners from pursuing

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Mitchel Resnick, *Lifelong Kindergarten*

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Essay 11:

Sand in the gears by Ingrid Burrington

Ingrid Burrington writes, makes maps, and tells jokes about places, politics, and the feelings people have about both. She's the author of *Networks of New York: An Illustrated Field Guide to Urban Internet Infrastructure*. Her work has been supported by Eyebeam, Data & Society, and the Center for Land Use Interpretation.

► indp.co/sand

I'm working on a new project that involves sanding and grinding down a piece of an iPhone until it's a pile of dust. While I do this, I sometimes watch videos of iPhones being destroyed in various ways, a genre of YouTube video that seems to comprise a mix of DIY foundry enthusiasts, power-tool geeks, and people selling blenders. In these videos, iPhones get covered in molten liquid metal, boiled in Coca-Cola, or made subject to man's most portentous question, *Will it blend?* (Reader, it blends.)

What I'm doing isn't quite as instantaneously cathartic as what happens in the videos. There are faster—and safer, though probably not by much—ways to destroy an iPhone (for example, shredders at e-waste recycling centers, or industrial pulverizers). Aside from not having access to an industrial pulverizer, I'm trying to take my time with this task and meditate on the breakdown of metals and toxins that I'm hoping my ventilation mask and safety goggles will protect me from.

I'm slowly sanding this iPhone down into a pile of black and gray and glass fragments because I want to see if I can make it look more like the materials it's actually made of.

For all the alchemy and labor that make iPhones appear untouched by human hands, at the end of the day all digital devices are just a bunch of slowly accumulated rocks, refined with chemicals and petroleum. Really, the entirety of today's real-time

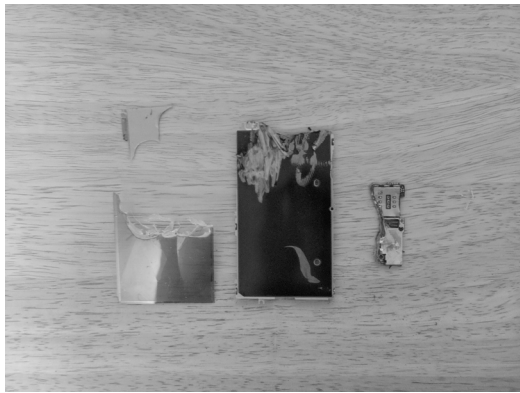
information ecosystem sits on top of a dense sediment of ancient geology.

This may or may not be reassuring information. It can conjure scarcity anxiety: we could run out of these precious resources, and then how would our (fraught as it may be) way of life continue? But if the early 21st century's love affair with tar sands oil teaches us anything, it's that "running out" of a resource is the wrong question; the question humanity needs to worry about is what devastating environmental and political lengths it is willing to go to in order to not "run out" of a resource.

Computation is generally not perceived as something that could ever "run out." One of computer history's most persistent and prevailing myths is that computational power will eventually give way to limitless human ingenuity and development. This rhetorical infinitude is, in part, reinforced by a misunderstanding about its material infinitude. After all, much of hardware history centers around a material that's generally thought of as a sort of ubiquitous and humble one: silicon, i.e. sand.

"Next to oxygen, [silicon is] the most common ingredient on earth," notes William Shatner in the 1976 AT&T educational film *Microworld*. A shot of computer chips lifted by gentle winds along a sandy terrain drives the point home: The future of computing is limitless, as it's powered by this infinite and inexhaustible resource.

But that's not actually how it works. I can't just head to the nearest beach, fill a bucket with sand, and generate a pure silicon crystal ingot at home. Most sand isn't pure silica. Rather, it's full of the detritus of its local geologic context (and, increasingly, a distributed geologic context as petroleum rendered into tiny pieces of plastic). The kind of silica used in computer chips is more often made from pulverized quartzite, and there are only so many manufacturing sites in the world that can make electronics-grade pure silicon metal.



Assorted parts in varying states of erosion

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Figuring out where that special sand comes from can be challenging. Histories of companies like Texas Instruments and Fairchild Semiconductor (who were at the forefront of developing silicon chips) tend to emphasize how they figured out how to work with pure silicon, instead of where they got the silica to begin with. If it came from the United States, it seems plausible that their source was Spruce Pine, North Carolina, which is known for its exceptionally pure quartzite.

So computers aren't made out of mere generic sand. Really, there's no such thing as "generic sand." Sand is perceived as generic because most people only look really closely at sand if they're geologists, or maybe if they're really high. Technically though, we're looking at sand all the time. There's sand peeking out from all the cracks and contours of modern life. The glass of my phone's touchscreen and my laptop monitor and the window I stare out while procrastinating on this essay—all were formed from sand. It's in the concrete and drywall used to construct the building I'm sitting in right now. It's in roads and bridges. It's being blasted deep into the earth in hydrofracking wells and formed into the foundation of solar panels that provide an alternative to that hydrofracking. It's dredged out of seabeds to build artificial islands.

We have built the world on foundations of sand—albeit varying and very specific kinds of sand.

Desert sand like what you'd find in the seemingly endless Sahara is too smooth and fine to be used in construction; grittier riverbed sand and certain desalinated sea sands are preferable for construction. This means that the kinds of sand that can



So far I have gone through one small food processor, a blender, and two coffee grinders for this project.

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be used for roads and concrete actually are in somewhat limited supply—though that limit has more to do, again, with the limits of what's deemed appropriate and inappropriate resource extraction, and those limits can easily become porous.

The process of accumulating that “right kind of sand” has been a subject of environmental and political controversy throughout the world. While headlines about the world “running out of sand” admittedly read a little hyperbolic, the harms of “sand mafias” and people killed by sand mafias—as well as the environmental harms of dredging and mining sand—are entirely real.

Appropriately, the industrial term for the sand-gravel-quarried-rock mixture central to constructing the future is the same term used by the tech industry to describe data that's been made monetizable (and/or weaponizable): aggregate. Computers aren't exactly made of sand, but the economics and politics of sand writ large have a lot in common with the economics and politics of a digitally networked world. The appeal of platform capitalism, for instance, is related to the anachronistic vision of chips wrest from humble sand.

Just imagine: with the right set of processes (chemical, algorithmic, or otherwise) we can smooth out and purify the messy geology of data into a shiny, tidy, legible form, placing unstructured humanity in a crucible of

technical buzzwords and coming back with an ingot of pure consumer information. The massive global scale of producing both kinds of aggregate can make following its supply chains dizzying. Big industry likes for data to be granular, but rarely sees value in the individual grains.



iPhone dust

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There's actually something kind of unsettling and itchy about looking at individual data carefully, even my own. When I deleted my Facebook account, I didn't bother downloading my data. Aside from the fact that the company almost certainly hasn't actually erased it, I'm not sure I see much benefit in reliving every shitty ex-boyfriend and every poorly thought-out overshare. The notion of someone else assessing that data provokes a related but different discomfort, like those Spotify ads about individuals' listening habits that made me painfully self-conscious about what kind of cliché a marketer would label my listening habits under.

But almost no one at a giant platform actually puts those little particular grains of me under a microscope. It's not personal; it's aggregate. Industry runs on and demands large quantities of digital and stone-based aggregate, and its appetite is seemingly insatiable. Toxic destruction (of seabeds, of riverbanks, of cities, of individual futures, of social dynamics, of political systems) is accepted as an inevitable cost of doing business—an externality rendered someone else's problem.

At times, living in a networked world can feel like a different kind of specialized sand: quicksand.

As I work through this essay I have felt frequently overwhelmed by the sensation that I am sinking underneath the sheer weight of information. Every tab opened with a new thread of research inquiry, every fleeting check of Twitter, every email notification, every microaggression, every take, every meme cascades and after enough time it starts to feel like being buried alive.

Rather than simply suffocating in sand, I become of sand—a life dissolved into a series of stupid granular data points that never completely re-cohere as solid rock. Robert Smithson might have written about this state as emblematic of one of his favorite subjects, entropy—“a closed system which eventually deteriorates and starts to break apart and there’s no way you can really piece it back together again.”

So how does one stay grounded and mindful in this unsteady world built on sand? Most options are heavy with cliché. I could tell you to find a bit of solid rock and hold fast to it, or to hunker down and hide from the sandstorm. But at best, that’s only buying some time before you have to reckon with reality. I could tell you to make space for the careful sifting-through of things, and

to pay attention to the minutiae of sand grains rather than resorting to consumer-driven alchemical processing, but that feels patronizing and assumes access to an amount of free time that nobody has to spare. I might as well tell you to buy a little Zen garden kit or read *Goop* or something.

The most honest answer, I think, is to not read mindfulness as a euphemism for optimism, as a return to a simpler way of being, or as a kind of rational productivity.



Further developments

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There is a mindfulness to letting one's sanded, granular self become sand in the gears of platform capitalism; intentions to be set in embracing entropy as an opportunity to build something incredible and unexpected rather than a state of decay and dread.

Eventually this world built on sand will give way to another world built on sand, and another, and another. You may not live to see these other worlds, but your matter will shape them.

I am arguably at my most intentional and mindful these days when I'm wearing away at the edges of an old iPhone—not because I'm returning the device to its granular natural state or because the phone has lost its use-value as a phone, but because it requires me to make space for thinking through what words like *natural*, *functional*, and *reasonable* mean when describing technical interfaces and environmental conditions.

Trying to holistically take into account all of the stuff that goes into computing and building the future makes it apparent that the work of building a world requires gestures so much bigger than closing a browser tab.

It requires breaking apart and building something new and unfamiliar from those pieces rather than continuing to build the same structures again and again. To see the world as its grains of sand, and to remain attentive to the networks and systems of this era often means facing ugly truths. Building equity or justice into networked technologies is a perpetually Sisyphean project, but necessarily so.

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