THE WAY TO DESIGN

BY STEVE VASSALLO

This book is dedicated to designers who dare to be entrepreneurs, and entrepreneurs who want to harness the power of design.

Foundation
CAPITAL

PLAYING FOR REAL

PROLOGUE

Since this is a book about breaking out of narrow constraints, there's no tighter place to begin than the 2,100 square-foot Dutch Colonial on Laconia Road that me and my nine brothers and sisters were all jammed into. My parents turned the attic and basement into usable living spaces, but even with these renovations, we had to figure out how to shower every morning with only two full bathrooms. And there was a pair of kids to each bedroom.

It was in pairs that we grew up. Two girls. Two boys. Two girls. Then two more girls. And lastly, two more boys: me and my younger brother Mike. Mike and I got the smallest bedroom, since we were the youngest dyad of the crop. And that room wasn't much bigger than a peapod. But Mike and I were so close that we didn't need a lot of space between us. We'd often lose ourselves for hours playing with cars: Matchbox cars, Hot Wheels, Fisher Price and Tonka trucks, cars we built from LEGOs, a go-kart that Dad bought at a deep discount at the Auburn Sears & Roebuck because it had been sent to the wrong store, even real cars that we probably shouldn't have been driving at ages 13 and 11.

During the 1979 oil crisis, Mike and I set up a toy gas station on our front sidewalk and lined up every little car and scale model that we owned. There must have been close to 100 cars, including the last one in line, which had a to-scale handwritten sign on its rear bumper that read, "Last car in line. No gas." The Worcester Telegram came by and got a photo of the Vassallo fleet. The caption described Mike and I as, "Playing for Real."

A lot of people have similar stories—albeit with fewer siblings usually in the mix. What sets people who grow up to be designers apart from most others is that they wanted to keep playing. I've heard it time and again from prominent designers, like Evan Sharp and Ben Blumenfeld, that when they were kids, they didn't know that being a designer was an actual thing. They simply liked using their imagination to make stuff (very often with LEGOs). When they look back at their childhoods what they see in the distance are…. Those drawings I made for my grandmother…. That summer I spent teaching myself to bind books….The Mac II that I wrote my first program on….That Big Foot monster truck model I didn't think I could build, but did.

~~~~~~~~~~~~~~~~

This elemental compulsion is what and who I mean when I say "designer". Not necessarily someone who's been classically trained in the fine arts, or industrial, graphic, or user-interface design. I wasn't. But more liberally, anyone—even if they might not call themselves a designer—who has designed, built, and shipped things. These are people who have lived among the tools; who have experienced the deep satisfaction of refining the smallest details of something to an exacting finish; who know the pride and suppressed glee of finally

Playing for Real

The games kids play often reflect the grownup world around them, and are in many cases training for real life. Steven Vassallo, 8, in foreground, and his brother Michael, 6, set up their own gas line on the sidewalk in front of their house on Laconia Road. The brothers have a station, 25 cars, and a sign on the last one saying "Last Car In Line . . . No Gas!" They are the children of Dr. and Mrs. Charles Vassallo.

Gazette Photo by THOMAS N. HUNT

🔻 *Steve (front) and Mike in the Worcester Telegram.*

unveiling a completed work to the world—even if the population of that world numbered just one person—and saying, "I made this (for you)." As they grew up, their childhood inclination for making things only deepened. And then, at some point, like magic, the world started giving them money, health benefits, and a 401(k) to be this way. ▶

At least it felt like magic to me, when I rode that go-kart all the way from Worcester, Massachusetts into a job as a product designer at IDEO. There, I got to build everything from furniture and sunglasses to bun toasters and anesthesia-delivery devices.

After a long stint at IDEO, I went on to do other things, including start companies, and somehow along the way I wound up as an investor. But I still build products on the side and sell them on Amazon. My idea of a fun weekend is finding bespoke manhole covers to give as gifts, or helping my six-year-old daughter build a 2700-piece, 1:8 scale LEGO model of the Porsche 911 GT3 RS. I could talk about the kinematics of the machine I built in grad school for folding and launching paper airplanes until there's no one left in the room to listen. I'm a designer who happens to be a venture capitalist.

Fortunately for anyone belonging to this unbearable tribe of nitpicky craftspersons, this is an amazing moment to be a designer. In recent years, design has come into its own as a competitive lever for businesses, as a set of practices for solving important problems, even as a method for optimizing your life. Design thinking is being taught to kids in some primary schools.

Across industries, companies are trying to infuse their organizations with design sensibilities. And if you're a talented designer in Silicon Valley, the work finds you.
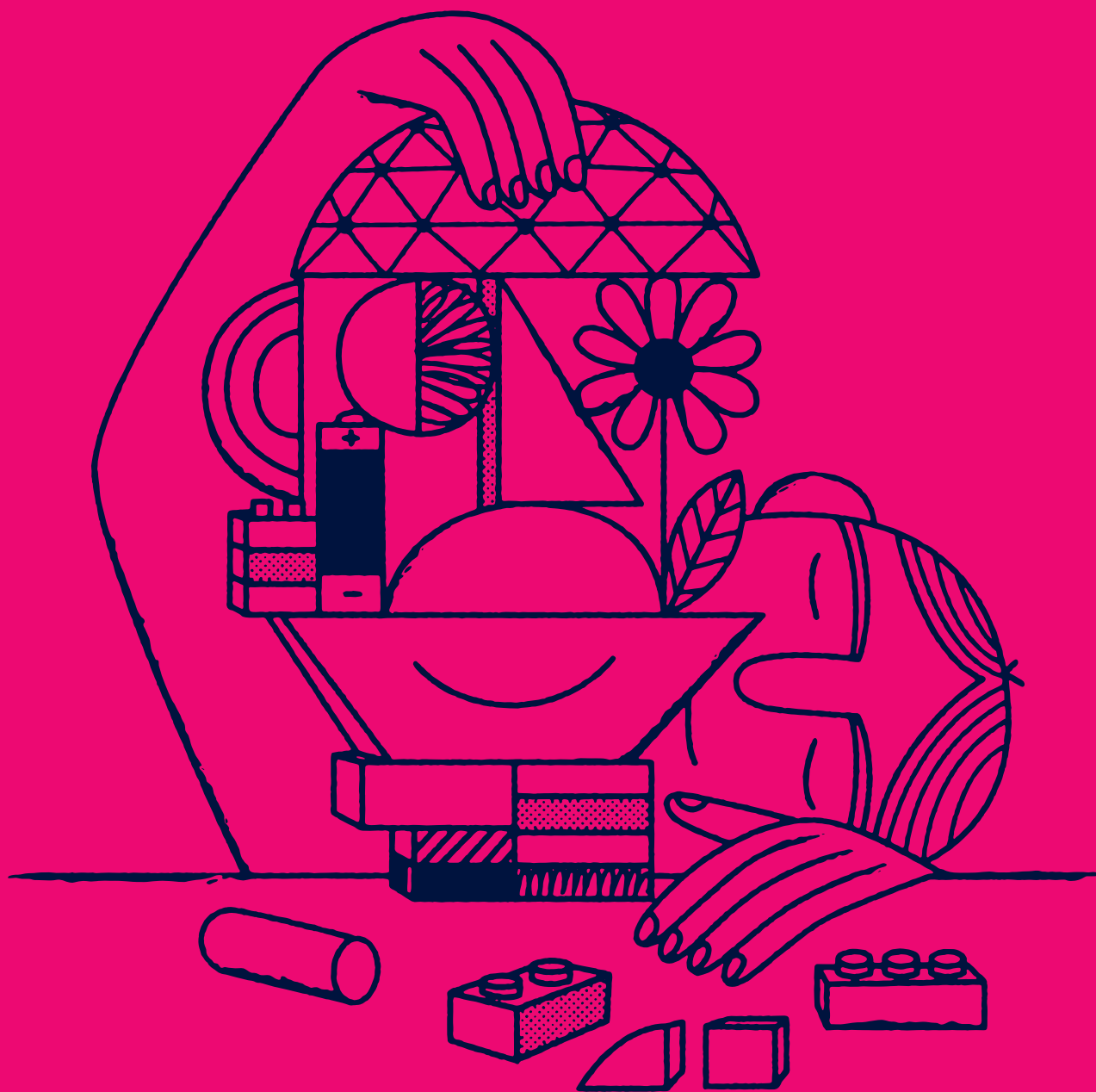
There's a subset of designers, however, who've started to wonder if there isn't something more they can do than pure craft. If there isn't a bigger impact they could be making on the world. These young women and men look to the designer cofounders of companies like Pinterest and Airbnb and they wonder if—and how—they might be like them. But they feel boxed in by ignorance or trepidation. Or they're lost at sea as to where to begin.

I remember the feeling well. I loved and still love designing products, but after a half decade at IDEO, doing only that felt as constricting as that tiny room with the bunkbed and one small desk that I shared with Mike. I knew that I wanted to do more. I was lucky and eventually figured out a path, even though at the time there wasn't much guidance out there for designers who wanted to become entrepreneurs.

Unfortunately, when I survey the landscape now, there's still not much help for young designers. There are reports filled with statistics about design—LinkedIn stats about designers in tech, numbers on designer-led startups, M&A activity of design firms, and fragmentary analysis of the design ecosystem. Industry observations. ▶

This elemental compulsion is what and who I mean when I say "designer". Not necessarily someone who's been classically trained in the fine arts, or industrial, graphic, or user-interface design. I wasn't. But more liberally, anyone—even if they might not call themselves a designer—who has designed, built, and shipped things. These are people who have lived among the tools; who have experienced the deep satisfaction of refining the smallest details of something to an exacting finish; who know the pride and suppressed glee of finally unveiling a completed work to the world—even if the population of that world numbered just one person—and saying...

"I MADE THIS FOR YOU..."

> **"For anyone belonging to this unbearable tribe of nitpicky craftspersons, this is an amazing moment to be a designer."**

But there isn't much substantive insight about what's required of designers to become successful founders, gleaned from the frontline stories of those who've lived to tell the tale. I wanted to do something about this void, and I decided to approach the problem as a design challenge.

As a product designer-turned-entrepreneur-turned-investor, I think that design is non-negotiable for building the great companies of the future. I want to help designers who want to become entrepreneurs and entrepreneurs who want to create design-empowered organizations.
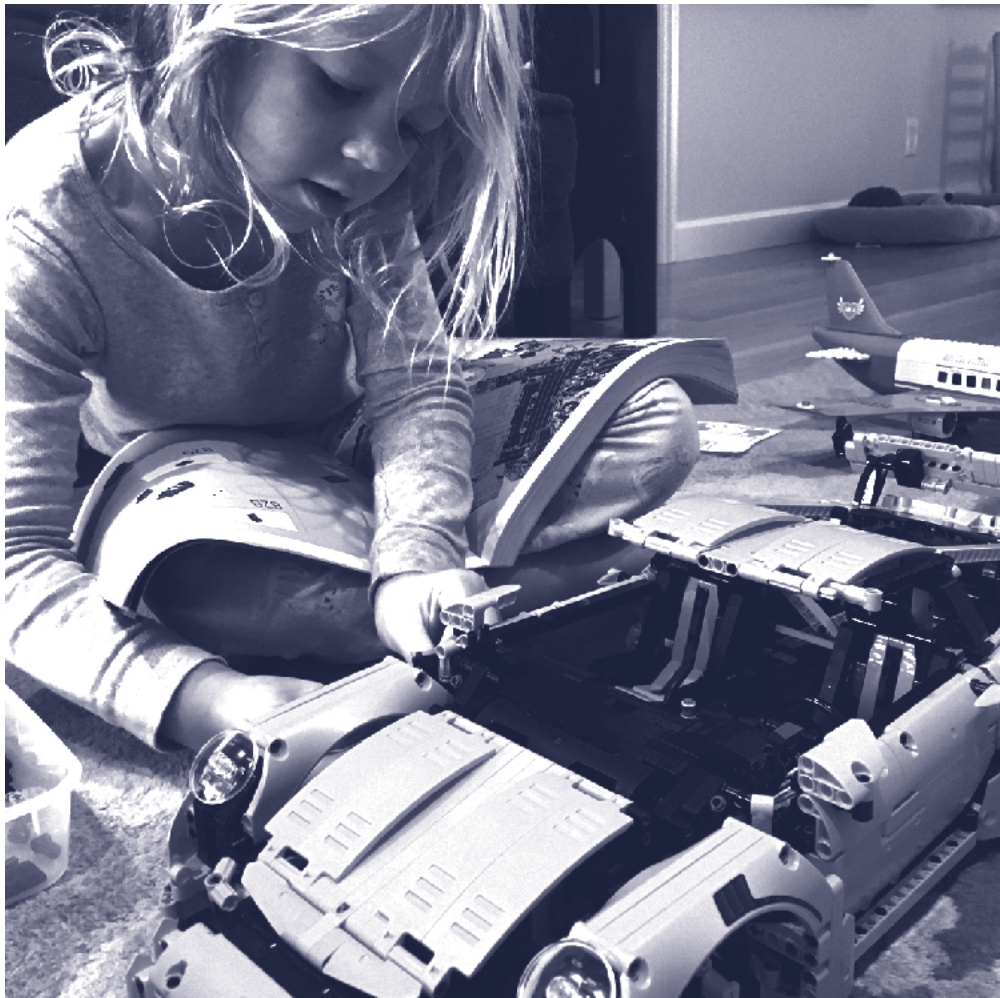
So, like any good design thinker, I started off by forming a research team, to explore the real-life stories of design entrepreneurs. Over the past nine months, we interviewed scores of designers, design scholars, and most importantly, designer founders (including the cofounders of Pinterest and Airbnb). We set up a war room at Foundation Capital to analyze what we collected. We held mini-design sprints and prototyped numerous versions of what you're reading in myriad forms. All in an attempt to plot the trail signs and marker-buoys of design's terra incognita—how to go from designer to designer founder. What follows is what we learned.

This work is intended for entrepreneurial designers, for designers who want to know more about what it takes to start a company, and for non-designer entrepreneurs and executives who want to understand how to make design a core value of their business.

After reading this, some designers may decide that becoming a founder is not for them, and there's no shame in that. But for designers who are thinking about undertaking the entrepreneur's ▶

🔴 *Steve's daughter - the next generation of Vassallo car nuts?*

journey, I want you to know what will be required of you. I also want you to know that there has never been a better time in history to be a designer with grand dreams. You might not know it, but you have it in you to do impossible things. You can take your designer's brew of creativity, curiosity, and an incurable itch to improve things—and use it to elevate the way people live. You can use your mutant powers to transform—for the better—how we travel, eat, take pictures, share, collect, connect, cure diseases, vote, love, create. You can play—for real 🔴

You might not know it, but you have it in you to do **impossible things.** You can take your designer's brew of creativity, curiosity, and an incurable itch to improve things—and use it to elevate the way people live.

You can use your mutant powers to transform— for the better—how we travel, eat, take pictures, share, collect, connect, cure diseases, vote, love, create. You can play—for real.

A

CREATIVE

EXPEDITION

"Are you ready for this book??" That's the provocation on the back cover of The Universal Traveler, one of my favorite books. Written by Don Koberg and Jim Bagnall, two design professors at Cal Poly, and first published in 1970, The Universal Traveler is part self-help manual, part treatise on creativity, part design workbook. There are charming sections on things like, staying open to "off-the-wall" ideas in Brainstorming (capitalized) sessions.

was introduced to it as an engineering grad student at Stanford in the 90s. At the time, design was one of the lesser disciplines in Silicon Valley. Steve Jobs hadn't yet returned to Apple to begin his historic tear of design-centric product launches. IDEO had only been founded a few years prior. And David Kelley hadn't yet codified and made famous the methodology known as a design thinking. Design was the "skin" that an agency was hired to slap on the real work of the engineers, to make a product more palatable for the fish-headed masses.

About a decade later, after my run as a product designer at IDEO—at a time when product designers were thought of as the J.V. engineers—I went back to Stanford for my MBA. I went to business school because I wanted to start my own company, but working as a designer hadn't given me the tools to do so.

Jump ahead a dozen more years—a few startups, a couple of IPOs, more than one career, and three kids later—and, from where I sit, there's never been a better time for anyone to start a company.

I've never witnessed more innovation or faster acceleration of technologies and new business ▶

🔷 *From the cover of Koberg & Bagnall's design treatise.*

" **VCs like me are used to asking, Who is your technical or business cofounder? But some of us have also started to ask, Who is your design cofounder?** "

It's a journey.
A creative expedition.

To reinvent yourself from
a designer to a designer founder.

To build your startup into
a design-centric organization.

To create processes
for creating great things.

To remake the world
for the better.

And I've WRITTEN this book
to help you find your way.

models. Nor has there ever been more ready access to risk capital, or better access to business and engineering leadership. But in too many of the young companies I meet, there remains a crucial seat at the startup table that still needs to be filled.

VCs like me are used to asking, *Who is your technical or business cofounder?* But some of us have also started to ask, *Who is your design cofounder?* Technical cofounders and business cofounders will always have their place, but I believe designers are now poised to demand equal footing. Because to build truly enduring companies, having a great programmer or engineer or marketer is no longer enough. You also need a great design lead.

Unfortunately, designers, by and large, aren't any more prepared to launch their own companies than I was when I first started my MBA. I'm not saying an MBA is necessary, but entrepreneurial designers do need business fluency, in addition to design fluency. Leadership and collaboration skills, in addition to creativity and individual talent. And a willingness to be not just the protector of aesthetics—but the integrator of aesthetics, technology, and values. Having walked this path myself, I can tell you that there are no handrails and it won't be easy. Quite frankly, the course will be arduous and most won't have the nerve or perseverance for it. But for designers and design-sensitive individuals, this is the most powerful way to make a difference.

It's a journey. A creative expedition. To reinvent yourself from a designer to a designer founder. To build your startup into a design-centric organization. To create processes for creating great things. To remake the world for the better. And I've written this book to help you find your way.

~~~~~~~~~~~~~

Since I believe each entrepreneur's journey is unique, consider *The Way to Design* more compass than map: guiding first principles to point you in the right direction. I think of this work as an intellectual descendent of *The Universal Traveler*. But whereas that book promised to act as "a general guide to behaving creatively in a fast-changing world," *The Way to Design* is intended to serve as applied wayfinding for a particular type of creative actor—the designer founder—who wants to shape that world, one which is utterly changed and radically more complex than the one in which Kolberg and Bagnall were writing.

Now, it's important that you understand the context in which you'll be operating. So, let's orient ourselves for the trek by tracing how design came to be so important. And then, if you're interested, I'll direct you to the trailhead ●

THE LAST is NOW FIRST

Until very recently, success in Silicon Valley required focusing almost single-mindedly on an organization's technical prowess. It meant having an unimpeachable technical founder, 10X engineers, and a relentless devotion to computing dominance. What truly mattered about consumers' interaction with technology was that it be fast. Expending valuable time on anything else—particularly design—was evidence of distraction from the real work of the company.

Years ago, when Larry Page was asked what Google's design aesthetic was, he replied, "Pine," referring to an old command line email program that was known primarily for its speed. And when we look at the origin stories of established tech giants like Intel, Microsoft, and Amazon, they're stories of business executives and engineers. Design was an afterthought.

But things have changed dramatically in just a few short years. Industry giants, like Samsung, GE, and IBM, have spent hundreds

of millions to build in-house design studios and hire thousands of designers. Google has invested heavily to reinvent itself as a design-centric business. Highly lucrative new companies—including Airbnb, Tumblr, Snapchat, Pinterest, Instagram, and Pocket—have sprung from the minds and hands of trained designers. While other billion-dollar companies, like Slack, have been built by offering better designed experiences with familiar technology. More designers, like myself, have become investors. At Foundation Capital, my venture capital firm, we've backed Designer Fund, the first and only investment fund focused solely on designer-founded startups. That's because most of the

industry has come to understand a new truth about modern business: more and more, design comes first, and is now as indispensable as technology.

∿∿∿∿∿∿∿∿∿

Three things are responsible for this remarkable shift. First, whether you're working on hardware or hosted software, the underlying technology to prototype, produce, and launch products has only become better, cheaper, and faster over the last 25 years. Free and easy-to-use CAD software, 3D printing, and crowdfunding have made it easier and faster than ever to design, ▶

"The most fundamental software infrastructure has become commoditized to the point where most of the innovation is now created at the interface with end users. In the consumer internet world in particular, the marginal cost of software is zero—and design is now the differentiator."

sell, and ship. Where, once, engineers used to rely on raw programming languages to create software, today, they build from open-source libraries and pre-existing technology platforms.

Meanwhile, at the bottom of the OSI stack, network speeds have gone from one gig to 10 gigs to 100 gigs. But we're approaching the limits of optical lithography—the sheer physical constraints of how much we can fit onto a chip—and thus an end to the noble metronomic march of Moore's Law. (One prominent engineer calls this "computer architecture's midlife crisis.")

Even assuming we eke out another decade and then make the leap to quantum computing, it remains the case that the most fundamental software infrastructure has become commoditized to the point where most of the innovation is now created at the interface with end users.
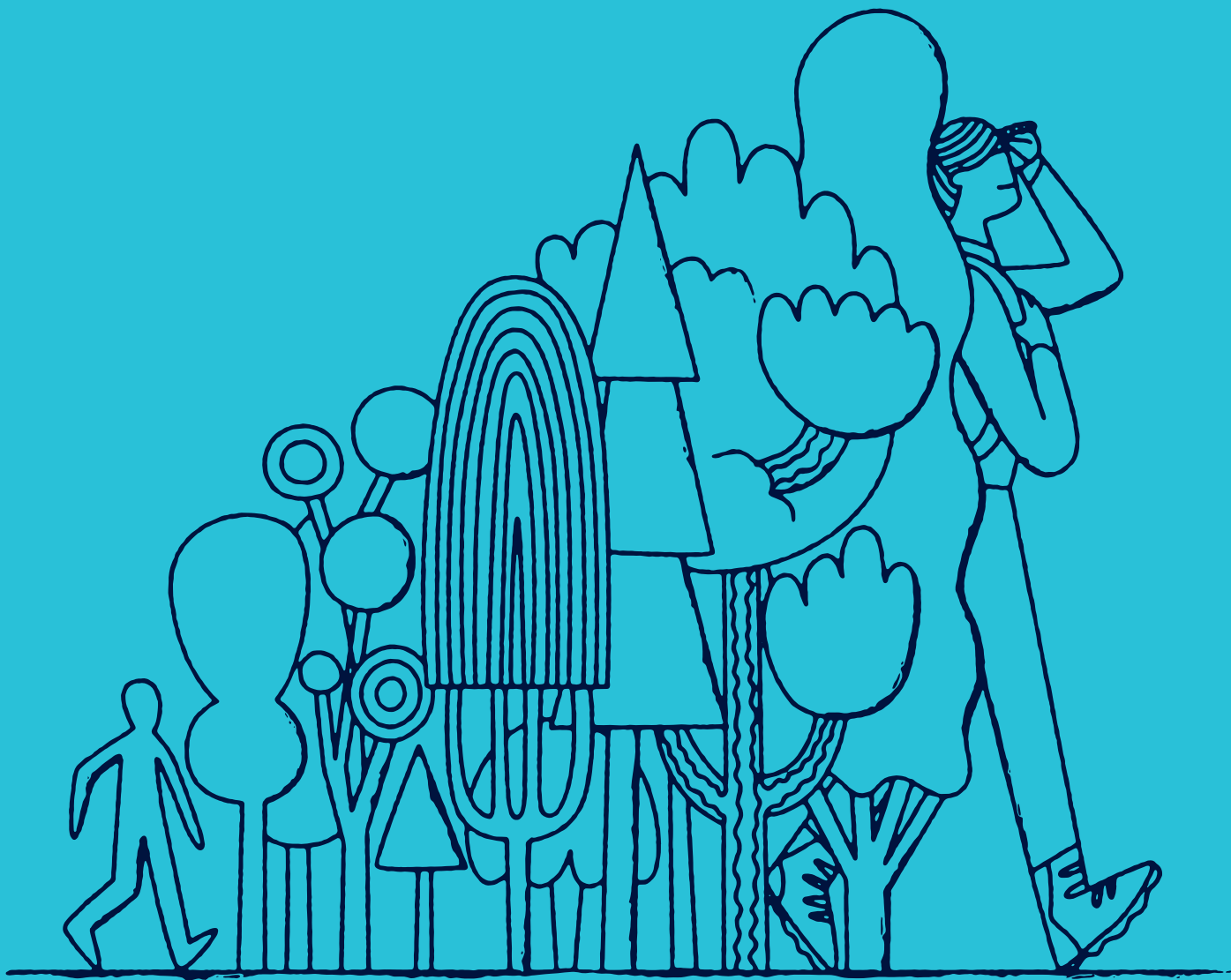
In the consumer internet world in particular, the marginal cost of software is zero, and design is now the differentiator. "The expectation for a new company is so much higher now," Airbnb's Joe Gebbia said to me, "because what they did in six months [10 years ago] someone could do now in a week." And therefore, "People have to come with more value."

The second reason that design has moved center stage is that consumer expectations have evolved. Businesses, even in the very recent past, weren't doomed to certain failure because of a weak emphasis on design. The bottoms of drawers across the free world are littered with poorly designed products that sold well because of brilliant sales and marketing. (If you don't remember or were too young for it, go check out the "Microsoft re-designs iPod packaging" parody video from a decade ago.) But the public has come to expect more. Thanks to the work of visionaries like Bill Moggridge, David Kelley, and Steve Jobs, people want user-devoted, frictionless experiences in their interactions with technology.

Jobs' influence is especially pronounced. Perhaps no single product has reshaped what people expect of designed technology more than the iPhone. Ever since its release a decade ago, consumer demand for useful, beautiful product experiences have grown more insistent. You can follow the trail of Palm's death crawl all the way back to its CMO saying, "Design is a commodity." Even developer expectations for better design have heightened. At Particle.io, a user-friendly platform for building IoT applications, Jon Logan and Richard Whitney told us that developers tolerate bad experiences "only when there's no other option." And they've found that customers often come back to their better-designed product after having awful experiences with competitors ●

Whether you're working on hardware or hosted software, the underlying technology to prototype, produce, and launch products has only become better, cheaper, and faster over the last 25 years.

Free and easy-to-use CAD software, 3D printing, and crowdfunding have made it easier and faster than ever to design, sell, and ship.

Seek and You Shall Design.

The final reason that design has become essential is that its scope and meaning have changed. When most laypeople hear the term "design," what comes to mind are things like a Dieter Rams stereo receiver, a Noguchi coffee table, one of the homes featured in Dwell, a Giugiaro concept car, maybe a well-turned brand logo. I'm a craftsman at heart and I honor this form of design. But "design" has come to mean much more than craft.

J ohn Arnold, perhaps the originator of the design movement at Stanford, taught a course called "How to Ask a Question." His belief was that "Each of man's advances was started by a question….Knowing what questions to ask and how to ask them is sometimes more important than the eventual answers." That's what design is at the most profound level, and what I'm talking about when I talk about design in this book. It's not aesthetics. It's knowing what questions to ask and how to ask them, be it about a small product or a planetary system.

I met designer founder Nate Weiner at a design event at Stanford and later invested in his startup. When I interviewed him for this project, ▶

> **"Design is The What. What should you be building? What's the right opportunity to go after? What's the right problem to solve? Asking the right question is half the answer. Design is not about the drapes or the drop shadows. Design is a messy, holistic, human-centric process for solving problems—not just stylistic problems, but problems of all manner and level of importance. "**

Nate told me that, at his company Pocket, the automatic retort to any questions regarding feasibility is, "Anything is a possible." Because, "*Can we do this is?* is the wrong question to ask. It's, *Why should we do this? How should we do this?*...It doesn't matter what ideas you have, it's all about, *Does this solve the problem?*"

In a world in which you can build anything, the onus for entrepreneurs has shifted from figuring out if you can build something, to understanding whether it's worth building it in the first place. And that's why design is now more than the window dressing. Design is The What. *What* should you be building? *What's* the right opportunity to go

after? *What's* the right problem to solve? Asking the right question is half the answer.

Design is not about the drapes or the drop shadows. Design is a messy, holistic, human-centric process for solving problems—not just stylistic problems, but problems of all manner and level of importance.

~~~~~~~~~~~~~~~~~~

At Particle.io, they helped one customer to develop a smart water meter that retrains people's shower-water usage thresholds through data-informed alerts. "This is a very unglamorous product with huge potential applications," said Jon Logan, "When you expand this to the scale of hundreds of thousands, you're talking about massive amounts of water savings. Apply this idea to agriculture and irrigation instead of home use, and you can be smarter about how you're watering fields for farms in Central Valley."

Ask Diego Rodriguez, Global Managing Director at IDEO, which airline he thinks is the best design-led and in his opinion it's not Virgin America, despite the care that that airline puts into things like lighting and pilot's jackets. "Cool, but that's all veneer," he says. Instead, Diego thinks the real design genius in the industry is Southwest Airlines' co-founder and former CEO Herb Kelleher, who "completely rethought the paradigm of how you get on an airplane." Kelleher solved an efficiency problem and, in doing so, turned Southwest into one of the safest and only consistently profitable airline in the country.

Another of Diego's favorite examples is the Uber app. For his money, the best design aspect of the app, isn't how attractive it is, but the way that it deals away with the awkwardness of the payment transaction. These kinds of solutions aren't necessarily pretty, but they're innovative and effective.

This notion of design lines up with the most recent scholarship on creativity, which Scott Klemmer, cofounder and director of the Design Lab at UC San Diego, summed up as, "You need to know the things that you need to know to solve the problem. And you need to not believe things that will get in the way of solving the problem." Viewed from this perspective, design is about searching out a product's or an organization's purpose—the problem it solves—and then painstakingly making sure every facet of the solution supports this purpose. Design is a way of thinking. "I believe in a designer mindset," said Moxxly cofounder Gabrielle Guthrie, "this approach that you take, regardless of if you're building products, teams, systems, or cultures" ●

WAS LOST BUT NOW I'M A FOUNDER

Where do we go from here? It's my conviction that the 21st century will be the designer's century, because I believe that design is the greatest lever for building the greatest companies to come. The most interesting innovation is happening at the top of the stack—at the interface with end users—where technology development intersects with design and where a swipe right or a hold might decide the next breakout business.

To take one example, if you haven't logged on to Facebook in more than 30 days, you'll get an email that will link you through to your account without you needing to remember your password. You'll have 24 hours to re-engage with your friends, which Facebook hopes will lead you to come back more often. This very simple solution—a design solution—of letting you in for 24 hours without a password addresses the very basic human trait of forgetfulness.

Now that is an example of how an established giant has put design to work to give its products an extra edge. And it's just as applicable in the early stages of product development and in the early life of a startup. Adam Ting, head of design at Blend, a next-gen mortgage startup, reports that "Design has closed deals for us … design is the main reason we're different. There's other things we do … but the one readily apparent thing is that the user experience is much better."

Design has become the primary differentiator for most companies, and it is unlikely that a company founded today will flourish without a robust and thoroughgoing design strategy.

~~~~~~~~~~

As a venture investor, I've seen startups fail for a lack of design, and companies that would've have been an order of magnitude better if they'd had design processes in place from the very beginning.

Unfortunately, despite how indispensable design is today, a stark gap persists: Not many people running top companies come from design backgrounds. According to the most recent data I could find, only 15 percent of the members of FounderDating claim design as their primary skillset. And, as its former CEO said, once you correct "for people who are more design-appreciators than designers, it's probably closer

"Design has become the primary differentiator for most companies, and it is unlikely that a company founded today will flourish without a robust and thoroughgoing design strategy."

to 6 percent." Yes, there are notable exceptions. But there should be more. And there will be— if designers start seeing themselves more often as entrepreneurs. As the builders not just of products, but of companies. Leaders not just of design but of people. Designers must embrace the entrepreneurial spirit.

When I left Stanford and began my career in product development I was set up with a $15,000 workstation and a $20,000 CAD ▶

> **"** **Solve a problem that is personal to you, a problem that you live in. Be married to the problem. Be so close to it that you understand it from the inside out. "** JOE GEBBIA
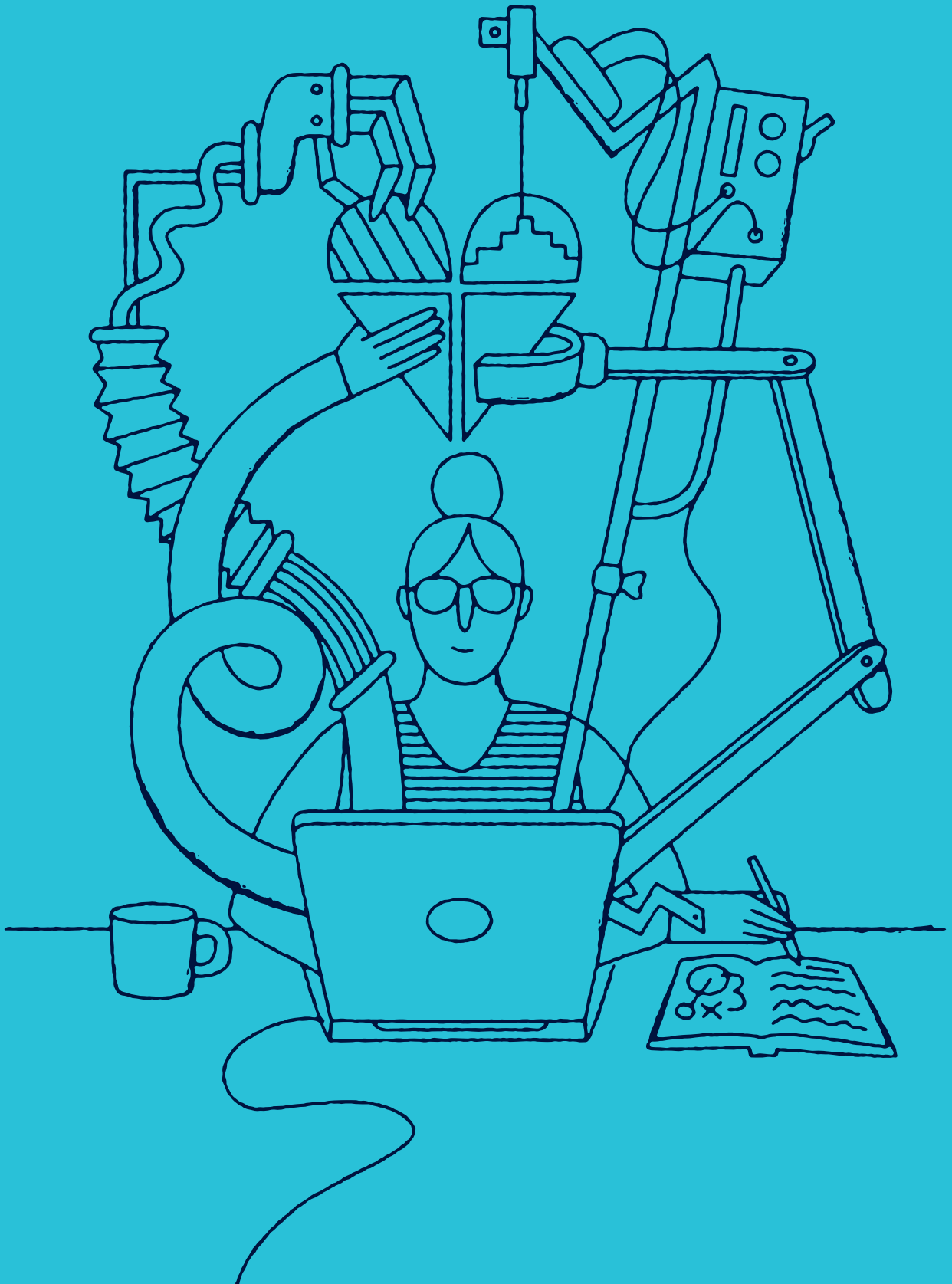
package sold by expensive sales reps and accompanied by a one-week training course in Boston. My prototypes cost $50,000 and were made in machine shops on equipment that ran upwards of half a million dollars. When we were ready to release for mass manufacture, we sent drawings and, in some cases, 3D files to toolmakers who spent 12 weeks hogging out hardened steel tools that cost no less than $100,000 per part.

Slowly, my product would wind its way through the labyrinth of distribution, ultimately landing in retail stores which required their own care and feeding: point of purchase displays, end caps, promotional materials, and, in some cases, training. And for all of this hard work, you might earn 40 points of gross margin, less than the end retailer that served as a shelf and not much more.

Today, 20 years later, you can design a product with the freeware version of SketchUp, make your first rapid prototype on your own desktop MakerBot, raise $100,000 in crowd-funding on Kickstarter, purchase $5,000 soft tools from PCH, set up virtual distribution with Shipwire or Amazon or both, and market and sell directly to your customers off your own website and in your own voice.

The tools really are in your hands now. But the cardinal question that every aspiring designer founder needs to answer before embarking on their entrepreneurial odyssey has changed. It is no longer: Can you build the product? The starting point is now: Why are you building it at all? ▶

The tools really are
in your hands now.

But the cardinal question that
every aspiring designer founder
needs to answer before embarking
on their entrepreneurial odyssey
has changed.

It is no longer: ~~Can you build the
product?~~ The starting point is now:

WHY ARE YOU BUILDING It AT All?

When we asked Joe Gebbia what he would say to entrepreneurial designers if he were delivering the commencement address at RISD, he said, "Solve a problem that is personal to you, a problem that you live in. Be married to the problem. Be so close to it that you understand it from the inside out."

Gabrielle Guthrie founded Moxxly, which is building a better breast pump, precisely because she saw that so many products for women were awful due to the fact that they were designed by people—i.e., men—who weren't close enough to the problems. "One thing that really resonated," said Gabrielle, "was a blog post that said, if men had to use breast pumps, they would be quieter than a Prius and look like an iPhone by now."

Echoing Joe, Nate Weiner's advice for an aspiring designer founder is,

> *Solve a problem that you really care about….Because there are going to be days [when] you, literally, are not going to want to go anymore. And the only thing that will get you through that is caring about that problem. Because if all you're here for is,* I just hope that we can make a big exit— *and that's it, that's not going to get you out of bed on those hard days.*

The only thing that does is knowing that you're solving something important.

For Melissa Miranda, who led the interview portion of this project, that something important is climate change and what designers can do to alleviate the problem. "What matters most is finding the leverage points where I can create the greatest impact. The structure is secondary: it might mean a side project today, a startup tomorrow, or a non-profit down the road."

Evan Sharp was lucky enough to find his The What. "Honestly, Pinterest is just my favorite thing, my favorite product. I just love thinking about it and working on it." And, like Evan, the true reward for any designer founder who finds the right problem to solve—is that you get to try to solve it:

> *To own the design….That was what I wanted to do every day….It's fun to be judged by the actual value of your work rather than someone's perceived value of your work. It's fun to have no layers between…. It's amazing when what you should be doing is exactly what you think is the most valuable thing to do with your time* ●

BEiNG
STEVE JOBS

CHAPTER 2

Not so long ago—at least that's what it seems like—I would chat with him when he came to our IDEO office with his most intractable design problems. I remember seeing him in his rollerblades whizzing around the aisles of the nearby Whole Foods. I remember feeling like something momentous had just happened when he soft-launched the original iMac at a private event at Stanford. More recently, I remember how it felt like the world had stopped on its axis, that October afternoon in 2011, when I got the news that Steve Jobs was dead.

I t's been more than five years since his passing and yet: pull out your smartphone, book an Airbnb for the weekend, Slack your coworker a message, or ogle the Tesla self-driving by—and Jobs' perfectly beveled shadow looms large. We live in the design-esteemed world that Steve Jobs ushered in. No individual has influenced the role of design in tech more, or is more responsible for raising consumer expectations for thoughtfully made products, than the late Apple cofounder.

Some of my interviewees for this project lead huge tech companies; some are rising designer founders. In both cases, time and again, Steve Jobs came up as reference point, illustration, or exemplar. He remains the most idolized modern founder and product-design obsessive ●

5-FOLD PATH to BECOME A GREAT DESIGN-TECH LEADER

1
THINK BIG

2
GET SMART ON BUSINESS

3
BE AN ADVOCATE FOR DESIGN

4
BREAK OUT OF THE CRAFT BOX

5
DESIGN A SYSTEM FOR REPEATABLE GENIUS

① THINK BIG

Last summer Apple sold its one billionth iPhone.

One billion. Since Jobs introduced the first version a decade ago, the iPhone has gone on to become the most successful commercial product in human history. It catalyzed people's insistence that their interactions with technology be frictionless and delightful. And the seed crystal of this grand fractal was the bottomless ambition of one young man working from his garage in Cupertino.

Jobs wanted to put a dent in the universe and nothing less. He wanted to have a wildly unrealistic, era-defining impact on the world in which he lived. And he succeeded—not through sheer design sensibilities alone but by starting and running influential companies.

As my friend and mentor David Kelley has said: "If the goal is to change the world, the business part changes the world faster." I'd like to think that's why David eventually forgave me for leaving IDEO. Pure design wasn't giving me the license or leverage to work on the problems I wanted to try to solve, at the scale that I wanted to solve them. So I became an entrepreneur. Today that tension has to be even greater for designers. When my 12-year old son can code and create, the most important question for product designers is no longer, "How can I build this?" Instead, as I wrote in the prior chapter, designers need to ask themselves and their cofounders the deeper question of, "Is it worth building it in the first place?" Or, said another way, "Is it going to matter? Is it going to address a real problem or opportunity in the world?"

• •

It hadn't dawned on Joe Gebbia, who had dreams of becoming a painter, that the objects in the world were acts of design until he discovered industrial design at RISD. "I became very intrigued and said to myself, 'I would much rather apply creativity to solving problems and improving people's lives than improving the state of the art world.'" Similarly, talking about the millions of people who use Pinterest every day, Evan Sharp said, "[I]t's hard to argue against scale if you're talking about positive social impact….I've lost a little bit of patience with products that aren't designed to have a really large reach."

That's not to suggest you snort a line of coke laced with delusions of grandeur and then start nude-practicing your TED Talk in the mirror. The first step is always to find the right opportunity to work on—one that you care deeply about even if it doesn't seem like it's going to change everything forever and transfigure you into a living god. Be open and prepared to scale your modest solution into a larger vision.

Take the example of Nate Weiner, who in 2007 got tired of emailing himself article links to read later. So, in a night, he taught himself to make a Firefox extension and banged out a little plug-in that allowed him to Read It Later, as he would come to call the product. It turned out that a lot ▶

> **" If the goal is to change the world, the business part changes the world faster. "**
> DAVID KELLEY

of people had the same problem and, much to Nate's surprise, those initial 160 lines of code became one of the most popular apps in the Apple Store, and eventually became the company Pocket.

More likely than starting off with a megalomaniacal roadmap for global conquest, this is the typical journey of a designer founder. You identify a problem and attempt to solve it as simply as possible. But once you do, you quickly realize that there's a web of problems that your solution addresses; so, you start solving for those, too. And it continues to expand out from there:

> *I need to be able to save this content for later. Huh, what if millions of people did that? What would that unlock? What if it's not just for written content but for voice and video? And then based on all the data you get, now we know what all the best content is. How can we use that to power recommendations?*

When Nate retraces Pocket's widening circle, over nine years—from homemade plug-in to 10 million monthly unique users and two billion items saved—I hear someone who models the Jobsian trait for embracing expansiveness that I want to see in all designer founders.

Joe, likewise, recounted the story for me of he and his cofounders deciding to take venture funding, rather than maintain Airbnb as a lifestyle business. They did so because they realized that, given how big the travel market was, they had a once-in-a-lifetime opportunity to build something that might outlive them:

> *The brands we admire—Nike, Apple, Disney—have gone beyond their originators. They created these brands that in some cases define a generation. Nike in the 90s was the defining brand. Apple in the 2000s was a defining brand. We did all the math and reasoning that we could and realized that we had the chance to build one of those brands.*

They decided to "swing for the fences," not knowing whether or not it would work out.

If you have the stuff of which Jobs' ambition was made—if you want to make a big and meaningful difference—then the surest way to create large-scale impact today is through the deft use of technology and the wise deployment of capital. Think of technology as the sword and business as the shield. The designer founder is one who can choreograph both to maximal effect. And the question of what you're going to build—the battle to be joined—has never been more important. Creativity alone isn't enough. Designers need to be prepared to think massive ●

Think of **technology** as the
sword and **business** as the shield.

The designer founder is one
who can choreograph both to
maximal effect.

And the question of what you're
going to build—the battle to be
joined—has never been more
important. Creativity alone
isn't enough. Designers need
to be prepared to think massive.

② Get Smart on Business

When Jobs wasn't yet ready to take the corporate reins of Apple, he lured John Sculley away from PepsiCo to be CEO and president. Sculley's business experience and marketing skills freed Jobs to focus on being product czar. Until things soured and Jobs left Apple, both he and Sculley conceded that it was an amazing partnership.

If you're a designer who's a new entrepreneur, you'll need to find a partner with a solid sense for business. But you'll also need to grasp enough of it yourself in the event things go south in the relationship (See: Jobs-Sculley, 1986) and to protect yourself from being taken advantage of by unscrupulous investors. If you're fundraising, for example, and are offered a swanky valuation— do you know what the terms for that price will cost you in the future? Do you really grok the difference between fixed and variable costs?

Do you understand the fundamental financial metrics of your business?

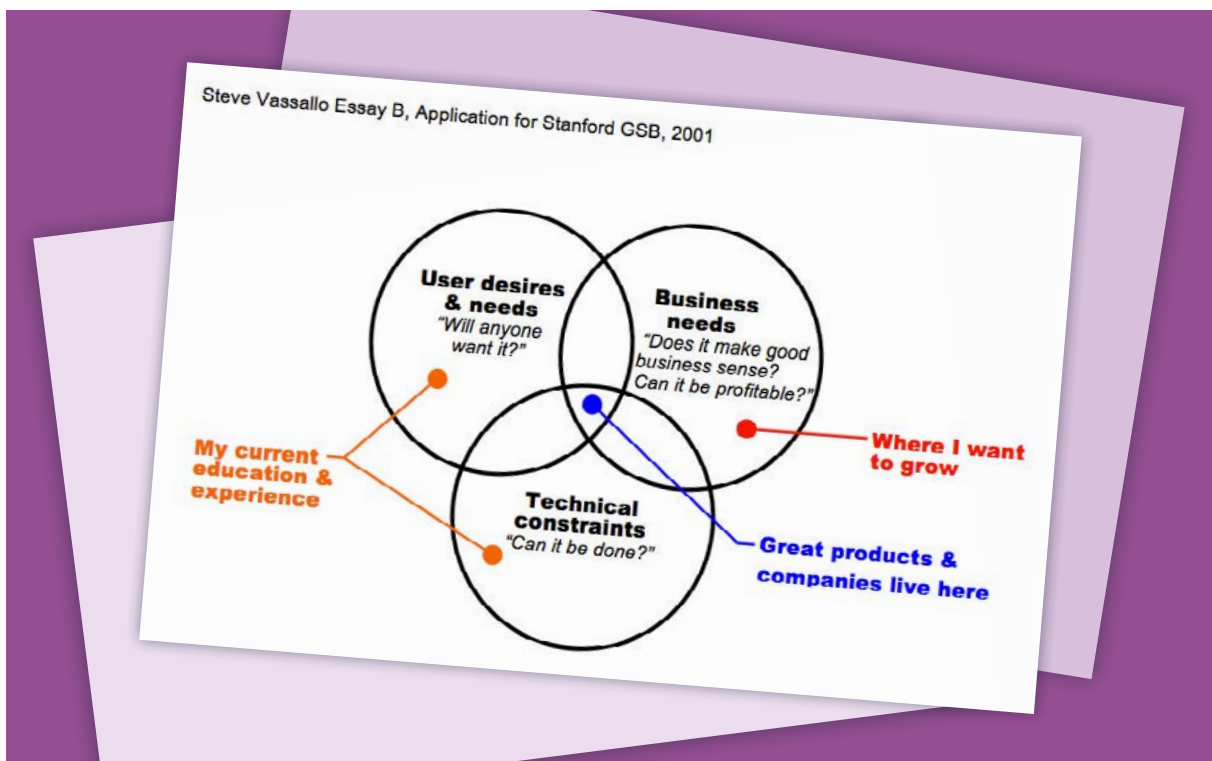If you're going to live in the land of business, you need to speak the language of business. Obvious as this seems, I believe it needs stating because I know that many designers feel like business is slimy and/or alienating and/or just not fun. (After securing Pocket's first round of venture funding, Nate Weiner found himself asking, "What's a run rate?") Pre-founder designers only want to be creative and make cool shit. I get that. I left the Stanford engineering Master's program

in 1995 brimming with optimism and a sense that "the best idea wins." While I'm just as optimistic now as I was then, I can assure you, the best idea definitely does not always win.

Oracle never had the best database. They still don't. Cisco never had the best switches and routers. They still don't. What these companies do have is incredible marketing, distribution and sales execution. Now, I'm actually very proud of the family of VoIP phones that I helped develop for Cisco and believe it may go down in history as the last great desk phone. But truth be told, Cisco's enterprise sales force probably could have sold as many systems had we designed the last not-so-great desk phone, instead. What I learned was a) you need both design and distribution, and b) I had a lot to learn if I wanted to start my own company.

Once upon a time, when I was applying to business school (the first line of the worst fairytale ever), I responded to the essay question "Why do you wish to earn an MBA?" by drawing the Venn diagram below. ▶

Steve Vassallo Essay B, Application for Stanford GSB, 2001

User desires
& needs
"Will anyone
want it?"

Business
needs
"Does it make good
business sense?
Can it be profitable?"

My current
education &
experience

Technical
constraints
"Can it be done?"

Where I want
to grow

Great products &
companies live here

⬢ *Steve's Venn diagram for business school, 2001.*

A crop of The Realm of Venture. See the full map at thewaytodesign.com

> " **If you're going to live in the land of business,**
>
> **you need to speak the language of business.** "

What I was trying to convey was that through IDEO I had lots of user-centered design experience. I had engineering training from Stanford, so I felt comfortable answering the question of "Can it be done?" But I knew that this third circle—business needs—was missing. When I left IDEO, I didn't understand basic things like how gross margins are really calculated. I had no concept of costs that were below the line. Customer acquisition cost? What? To someone who builds stuff, you think, my costs are the parts that go into this physical object that makes a sound when I drop it on the floor. All the other costs that go into building a business were not obvious to me.

I suspected back then, and am more convinced than ever now, that entrepreneurial designers need to be thinking about all three circles in the Venn; and if they want to play a critical role in shaping the future, they have to live at the intersection. When designers ask me the best way to start earning a seat at the founders table, I tell them to get smart on sales, distribution, marketing, growth. "If you want to be leading a huge product that has lots of scale, you need to learn business," advises Evan Sharp, who admits that he was a business innocent in Pinterest's early days: "I got lucky. It could have been really shitty for me, and I could have built something big that I didn't get to be part of."

You don't need to get an MBA like I did (it took me a long time to pay off my student loans!),

but you can't hide your head in renderings. Nor should you see business as just a necessary evil. IDEO's Diego Rodriguez, for example, considers it a creative input: "I think money has historically been the missing ingredient in a lot of design conversations … [But it's really] a liberating constraint. When you ask a customer to pay for something, it's so different from asking, 'What do you think?'" Not factoring in business needs, in his opinion, is like "designing bridges without gravity."

Don't bolt on business the way that businesses bolted on design for so many decades. And take heart in the fact that it's far easier for designers to get up to speed on business than it is for business people to get up to speed on design. Business is a set of concepts and practical skills, a set of tools that people of every background can and have learned. And if there's one thing designers are good at, it's learning how to use tools. "My approach has been to embrace it," Jesse Genet, the designer cofounder and CEO of Lumi, says,

I don't have an MBA or a finance degree, I don't know what someone is talking about when they say EBITDA. It feels overwhelming, but like a lot of skills, the fundamentals are not that hard…. My advice is skip the imposter syndrome, get in there and learn to enjoy it. It's the lifeblood of your company ●

③ BE AN ADVOCATE FOR DESIGN

Jobs was angrily uncompromising about every atom of a product's design. IDEO's Jim Yurchenco—who helped to build the first Apple mouse—told me about a shouting match that he once got into with Jobs because Jobs insisted that the internal components of a product, which no consumer would ever see, needed to have a certain anodized finish. The insides! So, there's no doubt that Jobs was a designer's designer down to his marrow.

H e derisively referred to the sales and marketing executives who dictated product decisions at incumbents like IBM and Xerox as "toner heads," after the black powder that goes into copying machines, because their ideas about product design amounted to clueless facsimiles of what had come before.

Even though, for the health of your startup, and for your own self-interest, you need to get ▶

It's the duty of the designer in the founding cohort to stop <u>1984</u> from happening to your company.

" NEVER SEND A SUIT TO DO A PIRATE'S JOB "

Jobs said.

Teach your organization to esteem design. Model the principles of design as a methodology for figuring out what problems to solve and how. Show your colleagues the worth that comes from putting the end user first.

smart on business, never forget that the most important thing you're bringing to the enterprise is design. Design will be the key differentiator for the great companies of the future and it's your job to ensure that your startup will be one of those companies by being the voice for design.

I understand the exigencies of trying to keep a young company on its feet. Sometimes short-term-thinking decisions are made for the sake of revenue. But if you let other elements in the company consistently override design, then before long it won't be part of your company's core strategy. Case in point, one designer cofounder with whom we spoke admitted that he struggled to keep the "insidious" influence of sales culture from pushing out design as a priority at his startup. "The system is still favoring revenue … and it's hard to account for all the little things that come up later that you don't even think about."

Jobs painted a depressing picture of what happens when design gets driven out of decision-making and the "toner heads" run the show.

The companies forget what it means to make great product. The product sensibilities and the product genius … gets rotted out by people running these companies who have no conception of a good product versus a bad product.

They have no conception of the craftsmanship that's required to take a good idea and turn it into a good product. And they really have no feeling in their hearts, usually, about wanting to really help the customers.

It's the duty of the designer in the founding cohort to stop 1984 from happening to your company. "Never send a suit to do a pirate's job," Jobs said. Teach your organization to esteem design. Model the principles of design as a methodology for figuring out what problems to solve and how. Show your colleagues the worth that comes from putting the end user first. And strive for greatness in design even if that means making a design choice that won't scale in the near term. A great designer cofounder will demonstrate how design can define and sometimes even save your company.

● ●

Take the story of Airbnb cofounders Joe Gebbia and Brian Chesky. In 2009, they had a problem. Rentals weren't taking off, and the business was close to going bust. In Joe's words, "For the first year of the business, we sat behind our computer screens trying to code our way through problems. We believed this was the dogma of how you're ▶

supposed to solve problems in Silicon Valley." But then, they got a kick in the ass from Paul Graham at Y Combinator, and realized that they had permission to do something that didn't scale, but would come to make all the difference. They rented a camera, flew to New York, and worked with property owners to take high-quality photos of the properties. During the process, they also gained priceless on-the-ground insights into their users' experiences:

> *We had been struggling for so long when we finally sat down with the early adopters. Talk to us—what are your issues? Oh my God, the thing we thought took two clicks, took 12! We were way wrong. It felt like this moment of enlightenment, seeing the world through their eyes. We gathered all those sources, stimuli, observations, and came back to SF, and we got smart because of it.*

Joe and Brian took what they learned and made a few simple design enhancements— adding attractive images, editing the UI—and it led to an almost-immediate doubling of their weekly revenues.
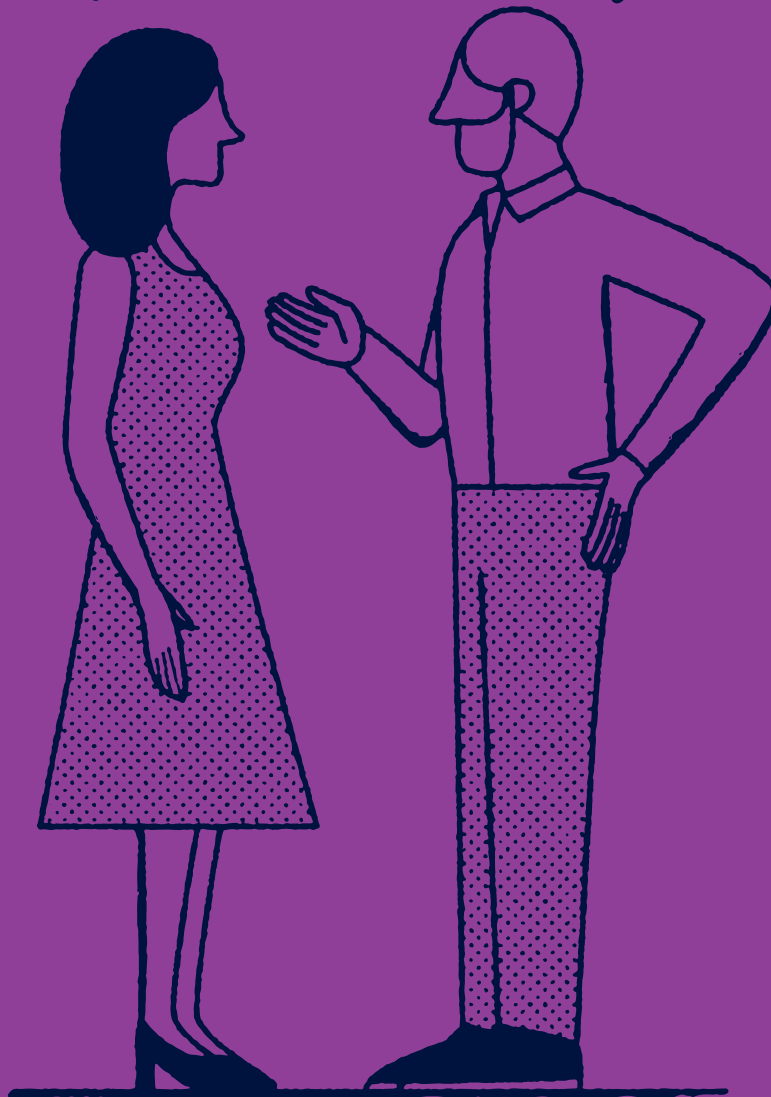
Now, many thought Airbnb's basic business model wasn't workable. Think about it. You're offering your home … to strangers … on the internet. Or, on the other side of the screen, you're looking for a way to sleep … in someone else's home … the home of a stranger you met on the internet. It sounds crazy but the design process made it work, by revealing to Joe and Brian that what they were really trying to build, at the heart of the matter, wasn't an online rental market—it was trust, actually. Trust between the property owners and renters, and trust in the Airbnb platform. High-quality photos, smartly calibrated descriptions, and a user interface that was truly easy-to-use were some of the conclusions reached by applying design to solve the problem of building trust. "There were no sharp edges on our site," said Joe, "The design had to communicate … that this is a trustworthy thing."

Design pushed through people's psychological "Stranger!" barrier, and the company's rentals skyrocketed as a result. The philosophy at Airbnb now, is that before something goes out the door, it has to be a "minimum awesome product." Joe explains: "For our business in particular, which is building a relationship of trust with somebody, you would never, ever use a minimum viable approach—just like minimum viability would never be the goal when it came to building a relationship with somebody in your personal life" ●

④ BREAK OUT OF THE CRAFT BOX

What Steve Jobs admired about the designer Paul Rand is telling. Jobs recruited Rand to design a brand identity for the company he started after being ousted from Apple. Rand created a 100-page brand document, which included a new company name, NeXT, and the exact angle (28°) to be used for the logo. Jobs admired him because he balanced the creative and the practical: "He really approached it as a problem that had to be solved, not an artistic challenge for its own sake."

The stories that get told about Jobs are always of how exacting he was, down to the type of wood tables he wanted for the Apple Stores. But the underreported feature of his success was how adept he was at switching focal points and letting go of his fixation on simply the product. Jobs knew how to zoom out from his microscopic attention to detail and consider the big-picture needs of Apple—then zoom back in again. He was unyielding in his

vision that the design of the iPod be simple and elegant, but equally cognizant of the fact that its success depended as much on making favorable deals with the music industry.

My favorite example of his dexterity at shifting from unsparing designer to expansive CEO was when he returned to Apple and the company had 12 different marketing departments, each with huge budgets, each running multiple campaigns. Jobs consolidated all the disparate departments down to one, which gave him the resources he needed for a single campaign: Think Different.

As a new entrepreneur, your big picture isn't going to be quite so big or complicated. But relative to being a designer, you will need to significantly zoom your attentions out enough to escape the mental confines of being solely a craftsperson. You have to wisely pick and choose when you can obsess over a picayune detail and when a

solution that might not be perfect is still good enough to ship—all the while always keeping the broader mission of your startup in perspective. Diego Rodriguez describes a designer founder as someone who loves "being in the flow, the center of the organization, solving the gnarliest problems." To do that, you need to find the proper ratio of tweaking pixels to executing strategy—because your company is your craft now.

● ●

"To be a designer founder," said Joe Gebbia,

> *… you're going to have to let go of the perfection, craftsmanship, or whatever you want to call it, because a designer and a manager or exec are two different mindsets.* ▶

> **" You have to wisely pick and choose when you can obsess over a picayune detail and when a solution that might not be perfect is still good enough to ship—all the while always keeping the broader mission of your startup in perspective. "**

Turn the idea of…

" FAIL FAST to SUCCEED FASTER "

…inward: towards the imperative for you to grow into a full-stack designer founder.

You have to become a builder of design teams and a design-led company—not just a maker of cool products and beautiful objects.

Designers can be highly focused on details and minutiae and the depth of meaning in something that makes great design. A manager is completely different. They are about action and implementation and progress, not necessarily iteration. Eighty percent is done. Seventy percent is done. Let's go.

This is easier said than done for many designers, including Joe, who struggled with the perfection affliction. As did Evan Sharp at Pinterest: "I always have a lot of tension between wanting to design and wanting to lead and manage." In fact, an inability to break out of the craft box, to grow into a leader as well as a designer, is the chief failure mode for designer entrepreneurs. Diego Rodriguez has observed more than one such specimen in dread: "It's, like, Oh my God, you're never going to ship, because it's never going to be perfect….And I can just see it: in 18 months you're going to run out of money."

If you want the world to have nice things, you need to figure out how and where they can buy them. Which means that designers can't isolate themselves in a design corner. They've got to help lead the business. "Design is the fun part," said John Proksch-Whaley, Director of Design at Nascent Objects, "and I'm not going to be happy unless I'm making things. But what drives me to figure out all those other things is that if I don't, I won't get to see this become real. It will be a sketch, but I don't get to touch and feel it at the end of the day."

Or, as Evan said, "I'd rather build something imperfect that a lot of people use than something really perfect that no one uses." In other words, just because you sometimes have to fight for unscalable feats of design, doesn't mean that scale needn't ever be a consideration. Just because you need to be a leader for design doesn't excuse you from being a leader for anything else.

Turn the idea of "Fail fast to succeed faster" inward: towards the imperative for you to grow into a full-stack designer founder. You have to become a builder of design teams and a design-led company—not just a maker of cool products and beautiful objects. Designers, in other words, need to rapidly level up and become design-tech leaders, which demands a new arsenal of skills: how to facilitate among different types of stakeholders, how to assess viability and feasibility, recruiting and hiring, communicating research findings, boosting your organizational influence, and setting up a process that integrates design with engineering. In order to gain equal footing in a young startup, designers have to take on an equal share of the responsibility and risk. Of course, that should come with an equal share of the reward ●

⑤ DESIGN A SYSTEM FOR REPEATABLE GENIUS

Jobs is remembered as a singular genius. And there's no doubt that he was an inspired and unique mind. But a key component to his genius was his ability to find talented people, rally them around his cause, and then create the conditions that allowed them to thrive again and again. Without these people and this process, he wouldn't have been able to scale his dreams. And healthy as his sense of self was, Jobs wasn't deluded about this fact. He once said, "Great things in business are never done by one person, they're done by a team of people." Steve Jobs' true brilliance was in designing <u>a system for repeatable genius.</u>

he irony is that if you're someone who wants to be the next Steve Jobs—someone who wants to build delight-giving, world-changing products and companies—the final, and perhaps most difficult, Jobsian peak you must summit is your own ego. Designers are very comfortable with making a thing, from conception to completion, all by our lonesome. We prefer it, trusting that no one will be able to bring our vision to life as well as we can, or will do it just as we want it done. But no successful designer founder is an island. Realize that if you want to build something greater than yourself, you need to first get over yourself and learn to scale your design through hiring, storytelling, and building culture and processes.

Designers who aspire to be designer founders need to understand that you don't have to know or do everything yourself. Your strength comes from having a skillset that crosses disciplines. As a founder this means you just need to understand enough to recruit and hire great people to build out the many elements that make up your startup's product. "I hired people who were better than me at design," said Evan Sharp.

Indeed, the most effective (and happiest) design leaders we talked to were the ones who'd found designers and engineers superior at craft than themselves. "I know just enough to know that I am a bad engineer, a bad designer, a bad

"These founders' understand that to put a dent in the universe requires many hands helping to lift and swing the hammer."

artist. But I'm fluent in those languages," said Marc Fenigstein, cofounder and CEO of Alta Motors. Movewith's designer founder Tricia Choi sees her role as a facilitator, who stands "at the crossroads of the artists and the dancers and the feelers and the philosophers, and the incredibly savvy business minds, product minds, engineering minds" and pulls them all together. Serial designer founder Gentry Underwood thinks of it as building a design "hive mind," which enables you "just in conversation [to] iterate with incredible rapidity." These founders understand that to put a dent in the universe requires many hands helping to lift and swing the hammer.

Another aspect to being Steve Jobs was his gift for storytelling—his uncanny skill at ▶

reading the audience, finding the right way to frame a story, and galvanizing others around a shared vision. He would even rewrite his communication team's press releases the night before publication, to get the wording just right. Great storytelling can be your most powerful tool for disseminating and scaling your vision. "More than any place I've ever worked," reported growth-team design lead Keenan Cummings, "[Airbnb] has a set of values. I can recite them off the top my head, and they influence the decisions we make."

● ●

Now, I'm not expecting young entrepreneurs to do the "reality-distortion field" thing that Jobs was known for—and please, no black turtlenecks. I just mean that if you want to launch something ambitious on the scale of Jobs, you need to be amazing—not adequate—at persuading investors, consumers, and prospective hires to care about whatever it is you're trying to build. "You could have the most brilliant idea, the most talented team, and plenty of money," said Lumi's Jesse Genet, "but it doesn't matter if you can't steer that ship and get everyone on the same page. It's irrelevant." Abstract's cofounder and CEO Josh Brewer put it even more flatly: "If you can't communicate, you're doomed."
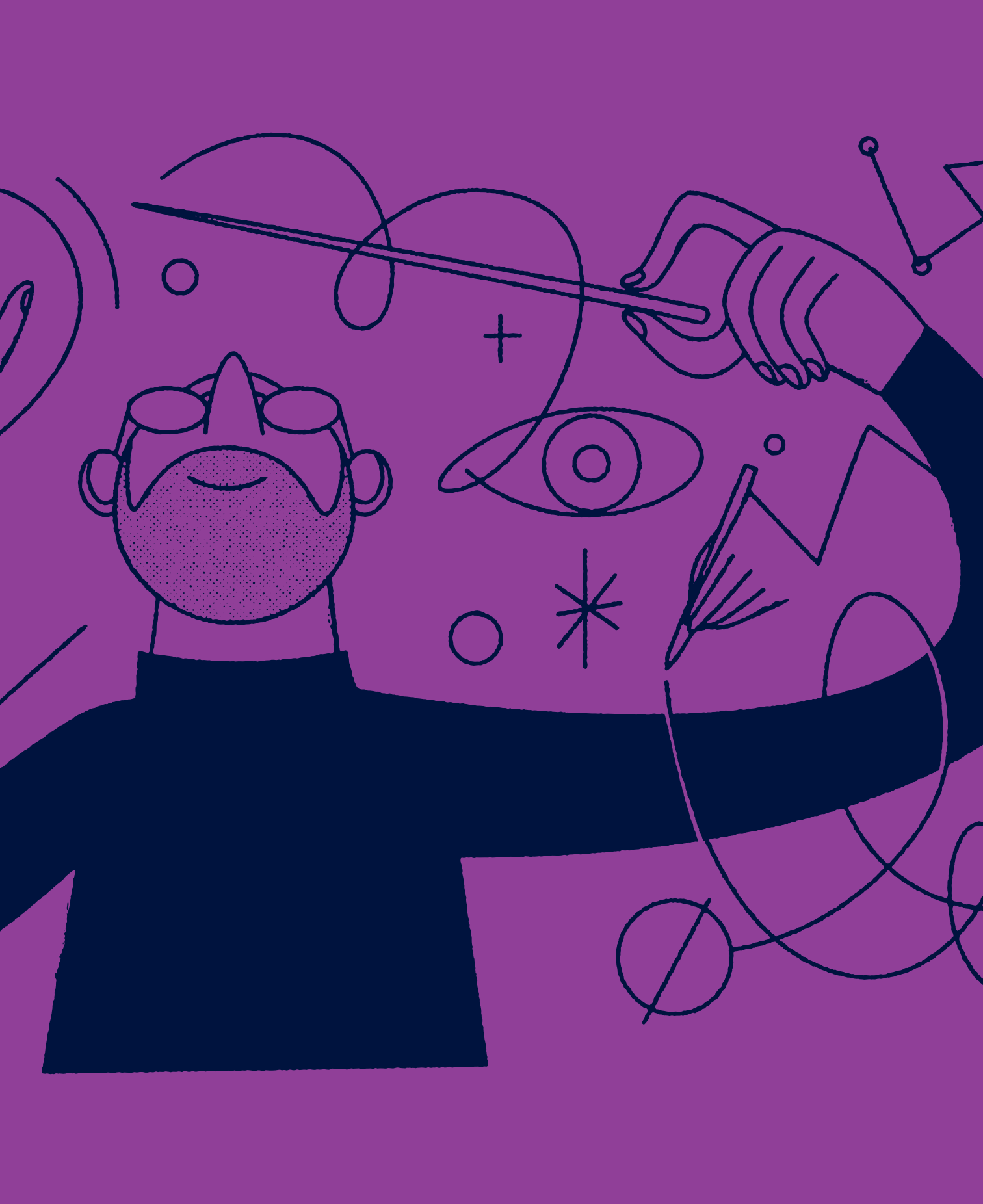
Lastly, designers respect Jobs because he was so obsessive-compulsive when it came to the smallest detail of a product—a true designer's designer, as I said. But here's the dirty little secret that I've waited until the filthy end to whisper: Steve Jobs wasn't a designer. Or an engineer. Or a coder. Without Steve Wozniak's engineering prowess early on, Tony Fadell's genius for remaking the drab into the extraordinary, Jony Ive's keen design acumen, or Tim Cook's gift for building out unrivaled operations—Jobs would not have been able to produce the first Apple computer, or the iPod, or the iPhone. He would not have been able to raise a CNC robot army to mill unibody MacBook Airs from solid aluminum.

Steve Jobs wasn't a designer, or an engineer, or a coder. He was the conductor of them all.

The story I shared in the last chapter about Jobs obsessing over the insides of a product wasn't about one especially maniacal aesthete pouring over design for design's sake. It was about a leader forging a set of values and an environment in which people are challenged to care deeply about the smallest aspects of the mission. It's about building a culture that refuses to accept mediocrity. Jobs' parting lesson for designer founders and all entrepreneurs is to be a great designer of organizations, one who understands the importance of building a culture and a process for excellence ●

Jobs obsessing over the insides of a product wasn't about one especially maniacal aesthete pouring over design for design's sake.
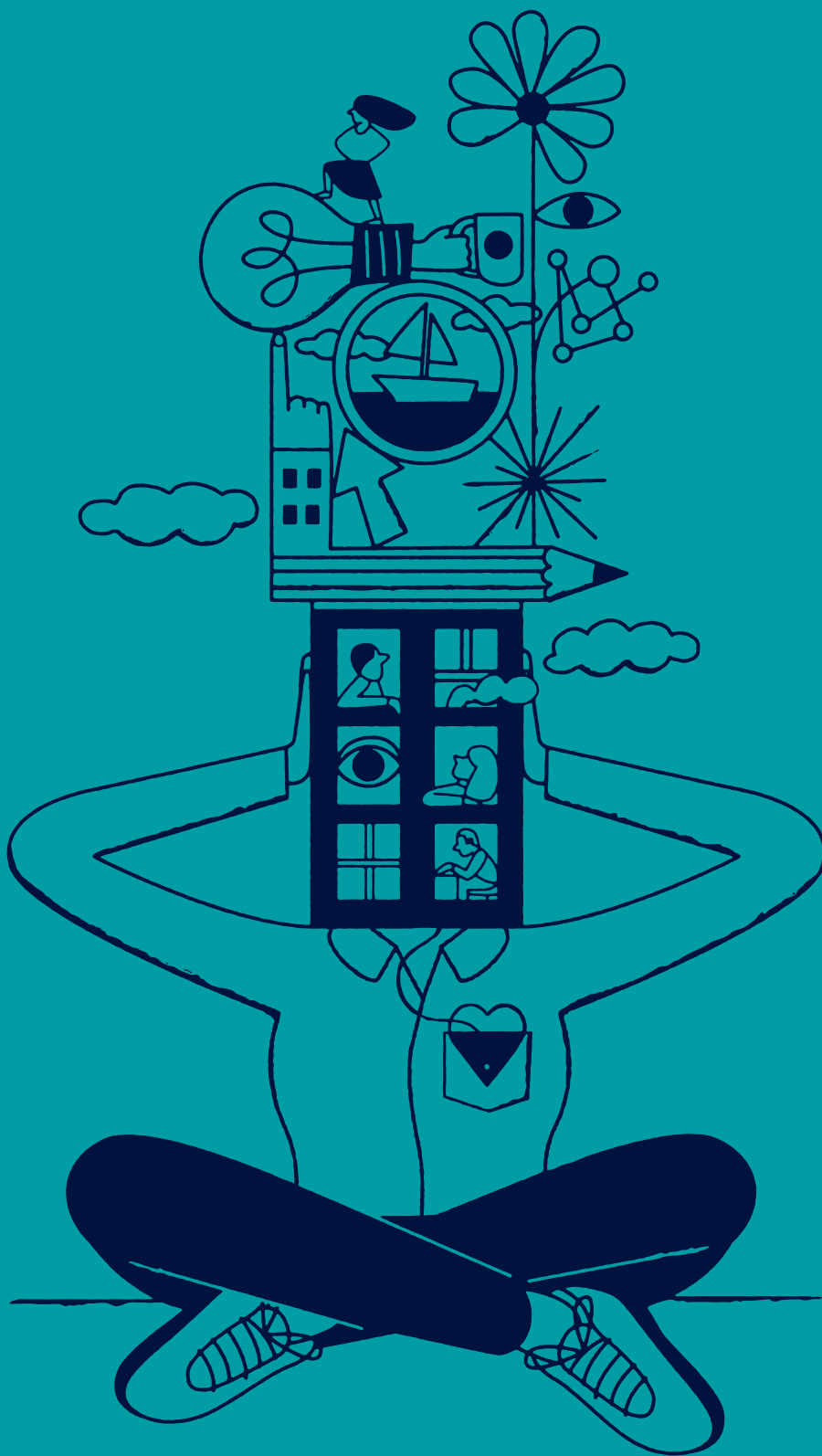
It was about a leader forging a set of values and an environment in which people are challenged to care deeply about the smallest aspects of the mission. It's about building a culture that refuses to accept mediocrity.

THE NOT-FOR-TOURISTS GUIDE TO DESIGNING A STARTUP

CHAPTER 3

Granted, you're an aspiring designer founder; or you're a non-designer entrepreneur who nevertheless understands that design is critical to the cause of starting a great company. Now, you want to know how you actually put design into practice for the new endeavor you want to launch. How, in fact, do you create an organization that has this mindset and method at its beating heart? How do you "design" your startup?

During the scores of hours I spent talking to entrepreneurs at design-led companies, a number of themes kept recurring: three beacons, let's say, that you should steer towards, to found a design-centric business.

FOUNDATION NOT FAÇADE

The first thing to be mindful of is to build design into a startup's very foundations, rather than bolt it on later as a mere facade. If a startup is serious about competing on design, then those practices and that mindset have to exist at a company's inception and throughout its lifecycle. The evidence is overwhelming that when it's not, especially for young companies, competing demands will inevitably crowd out design.

I'm not saying that a startup needs design in equal measures at every turn. If your user-credentials database has been hacked, it's *Engineering, I need more power (i.e., two-factor authentication)!* But for design to be more than a spiffy website and clever logo—for design to be a meaningful approach to how you solve problems and thereby create value—it has to be an integral part of your company's journey.

By far the most important thing you can do to empower design within your organization is to have a designer in your founding team. In fact, when I asked Evan Sharp how essential having a designer cofounder is he said, "You can't do it any other way….If the goal is to have

a human-centered product, you need people who value human-resonant products in your company."

Some of these "state of design" appraisals that I've read quote industry stats, like number of design firms acquired or design patents filed in the past year, as evidence of tech companies finally seeing the light. But I think that's a wrongheaded measure. Loading on a bunch of young designers—giving your company a schmear of design—without integrating design into your decision-making, without making it integral to your business' strategy? To me, that reeks of the inadequate design-as-façade approach of old.

Two fellow designers in the Valley who do get it, though, are Ben Blumenfeld and Enrique Allen, the founders of Designer Fund. Designer Fund is a seed fund that invests in and supports startups founded by designers. I led the initial investment in it after getting to know Ben and Enrique, and seeing that they shared my conviction that designer founders are the future. Designer Fund is the first seed fund with this tenet as its core investment thesis. It's backed companies devoted to brilliant user experiences, including Stripe, Omada, Framer, and AltSchool. It also provides professional development to designers, and helps connect them with other designers and entrepreneurs. Designer Fund is the realization of dreams that I (and many others) have had since my IDEO years, as well as an indication of the shape of things to come.

✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳

Another person who understands how indelible the very first people you bring into a business ▶

" **You can't do it any other way.... If the goal is to have a human-centered product, you need people who value human-resonant products in your company.** " EVAN SHARP

In his book, **Let My People Go Surfing**, Chouinard talks about Patagonia's policy of recruiting **very talented, highly motivated people** and then leaving them to manage their own schedules because...

" A SERIOUS SURFER DOESN'T PLAN TO GO SURFING NEXT TUESDAY AT 2 O'CLOCK. YOU GO SURFING WHEN THERE ARE WAVES AND THE TIDE AND WIND ARE RIGHT. "

are to shaping its culture is one of my heroes in business, Yvon Chouinard, founder of Patagonia, the highly successful outdoor-apparel maker. Chouinard—who's a designer in my book, even if he doesn't think of himself as one—built a company with an amazing work culture based on independence, achievement, and social responsibility. Back in the 1970s, Patagonia was already giving benefits to its employees, like generous maternity leave, flexible scheduling, and in-house childcare, which many companies to this day still don't offer. Now, three months of vacation for all employees isn't going to scale for most companies, but what Chouinard did was to attract talent uniquely suited to his mission.

In his book, *Let My People Go Surfing*, Chouinard talks about Patagonia's policy of recruiting very talented, highly motivated people and then leaving them be to manage their own schedules. His unimpeachable reasoning on the latter is that, "A serious surfer doesn't plan to go surfing next Tuesday at two o'clock. You go surfing when there are waves and the tide and wind are right." Chouinard, himself, now takes June to November off each year to go fly-fishing in Wyoming. He does so confident that he's put people in place who are more capable than he at tending to Patagonia's day-to-day needs and a structure in place that keeps making clothes that people love. He has, in other words, designed an organization that almost autonomously designs great products.

When management consultants come to Chouinard and ask him how to replicate Patagonia's culture of independence and productivity for incumbent companies, he tells them, "Forget it. You'll fail. Because you have to start with the very first person you hire."

That echoes something Joe Gebbia told me: "Culture doesn't make the people, it's the people in your building that make the culture. Which means spend as much time up front to get it right, to get the right people in, because it's a lot easier to mold concrete when it's wet than to chip away at it when it's dry."

In my own career, I've seen the power of design to define products and transform businesses—but only when it's part of the company's DNA. An empowered, foundational design culture will change the organization; a bolted-on design presence will fail. Either, during the misty mountain origins of your startup, dwarves banged an obsidian keystone—with your designer founder's name chiseled in it—into the cold firmament of how you do business. Or else, your company has an inflatable bouncy castle—with "Design" written in black Sharpie on it—that it busts out for happy hours and holiday parties, w00t ●

DO OR DO NOT

"There is no try," teaches Master Yoda. Who, if memory serves, was my instructor for ME210 (Electro-Mechanical Systems Design), a course at Stanford in which you were asked to build the most absurdly unbuildable products. The project briefs made me literally stare, scratch my head, and think, I don't know how you make that happen. Example: my first assignment was to design a rideable paper bicycle.

All the stuff you're asked to do early on when you choose to become a product designer seem almost impossible. But the more you do it, the less impossible the impossible seems. Over time, you get more comfortable doing what seemingly can't be done, because you learn from experience that if you work and prototype and then re-work, you begin to gain purchase on the problem, until it eventually bends under the force of your creative effort. And before you know it, you're cruising around on a paper bicycle.

This is the sort of mentality that a designer—someone who has learned to design by designing—will bring to the founding table. Adrian James, cofounder of Omada, says that ▶

when he looks at the world, "I see all these little things that are broken. But I don't experience it as negative. Rather, I experience them as exciting little challenges all around me." (Incidentally, one of my favorite definitions of an entrepreneur is "someone who does more than anyone thought possible with less than anyone thought possible.")

What this means in practice is that a designer cofounder will be a compulsive design doer. She will rush to prototype, storyboard, create mock-ups and models. It's extremely powerful, especially in your earliest days as a company, to have someone who can convert your abstract ideas into something with existential heft. A tangible prototype—even one that's made out of foamcore or cardboard—will open up a visual line of communication for your team; it will create a shared reality for your startup to rally around and iterate on. Shireen Yates, CEO and founder of Nima, and Xander Pollock, a designer entrepreneur whose company was

> **" What are the essential elements of the designer's mind? I'd say, at the most fundamental: <u>curiosity and a need to fix things.</u> These perhaps inborn characteristics, through training practice, beget a sensitivity to finding the right problem to work on and a will for doing what seemingly can't be done. "**

acquired by Google, both volunteered that having something actual and vivid to show investors—even if it looks janky as hell—will also help you fundraise. A fact that I, as an investor, can attest to.

If you're an engineering or business cofounder, it might be uncomfortable to add a weirdo designer to your early team, but the earlier a designer is added as a strategic peer, the more likely it is that your startup will develop a *design culture*. Joe Gebbia describes this as, "The space around the creation of the product, the supporting mechanism, the guidebook to how we want people to go about the creation of the product. The unspoken social contract you have with the people in your company to build the thing you're trying to bring to market."

I can't overstate the lasting advantage such a culture will give your company. In a sense, you want a designer cofounder in order to project her weirdness onto the organization. Her design sensibilities, design intelligence, even design neuroses. Meld your startup with the mind of a designer. Entrepreneur and IDEO alum Tiffany Card uploads her design consciousness to her companies by sharing "how design-led organizations do decision-making, all the way through to really sitting down and, *Here are the meetings you should have on a weekly basis …* [and demonstrating] how design can be built into a

sprint cadence." She adds: "The CEO, if they're not a designer founder, usually doesn't have the time to facilitate that conversation within the leadership team."

✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳

What are the essential elements of the designer's mind? I'd say, at the most fundamental: curiosity and a need to fix things. These perhaps inborn characteristics, through training practice, beget a sensitivity to finding the right problem to work on—which I've discussed in prior chapters—and a will for doing what seemingly can't be done. Finally, the outgrowth of this disposition is a creative process that embraces the wildly interdisciplinary and the messy.

It's not about making your startup more artistic. Design is a modality for practical, human-attuned problem solving. What a design culture does is liberates the creativity of the entire organization—not just designers but business, engineering, the entire stack—to readily generate ideas and continuously test them for validation. Problem-solve and iterate: it's what a startup must do to thrive; it's what a designer does by temperament and training. And if this mindset is mapped on to your company, then whatever other features you build, impossible will not be an option ●

LiQUID NOt SOLID

I think that having a designer cofounder is crucial to the implicit culture of a startup—to installing an inherent dedication to both choosing the right opportunity and delivering an exceptional solution. But the next imperative to "designing" a startup/forming a design-centric organization is to establish an explicit culture, one that respects the journey over the destination.

DEO used to display their most celebrated products in glass trophy cases. They had every reason to be proud of their designs. Their portfolio includes much-lauded products like Apple's first mouse, Eli Lilly insulin injection pens, the Palm V, Swiffer cleaning products, a portable heart defibrillator, and countless other things you've probably used. But the danger in fetishizing "the product" is that this creates the false impression that design is a finite and definite thing—a bullseye you hit and then call it a day.

The truth is very much the contrary. Design isn't something that can be bottled under glass or kept genied inside of physical artifacts. The product is *a* point, not *the* point. Or, as I like to say: Product-market fit is a liquid not a solid. Meaning, achieving product-market fit is a great thing, but it's a transitory achievement—a false summit of sorts. The competitive landscape

changes. Your customers will want more. New technology enables new features/functions/form factors. The goal is not to achieve product-market fit, but rather to achieve a drumbeat of regular and repeated product-market fits.

What really matters for a modern company is building design processes—lightweight methods and processes for problem-solving, creativity, and iteration. At Delighted, process removes a layer of worry, says its CEO and designer founder Caleb Elston, because "Every time we start a project, we don't have to reinvent how to do it." It might not make sense if you're only, say, four people, but sometime before Employee #40, all startups should follow suit and design not just a great product, but a process for continuously designing great products—a system for repeatable genius.

What this system will look like will vary from company to company, but any one worth its salt will value two things above all: the user and the process.

USER 1ST

In the last chapter, I called for aspiring designer founders to never lose sight of the business side of their companies. But today, the savvy strategy for any business is to not be overly focused on short-term transactions, and instead, to do what comes naturally to designers: put the end-user first. Shanna Tellerman, founder

and CEO of Modsy, is one such designer: "I go home obsessed about how customers are going to experience Modsy, and love it, and talk about it to everyone they've ever met. Not: *How do I get $10 out of my customers?* That would be nice, but I'm so much more concerned about the experience."

Similarly, when I interviewed Greg Duffy, cofounder of Dropcam, he told me that they could've gone after the home security market by trying to frighten their customers about the big, bad world lurking outside their windows. But they wanted to be more than a security camera for their customers. Their vision for the company was to create a private home video camera and cloud video archive for people to capture all the moments of their lives, which would otherwise be lost. They built a product and service that their customers loved and were willing to pay a monthly subscription for. They consciously chose joy over fear—chose to build trust and a long-term relationship, rather than cash in on myopic transactions.

Similarly, when Josh Brewer led the design team at Twitter, they committed to championing the user experience—

> *And that made me, and a number of the designers on the team, unpopular in a lot of cases and in a lot of meetings. Because we were the ones saying, "I get it. We want to do this, and I see the revenue* ▶

> **"Product-market fit is a liquid not a solid. Meaning, achieving product-market fit is a great thing, but it's a transitory achievement—a false summit of sorts. "**

implications, and I know why we would do that. However! Can we stop and think about what happens if we destroy the trust our users have in the system?"
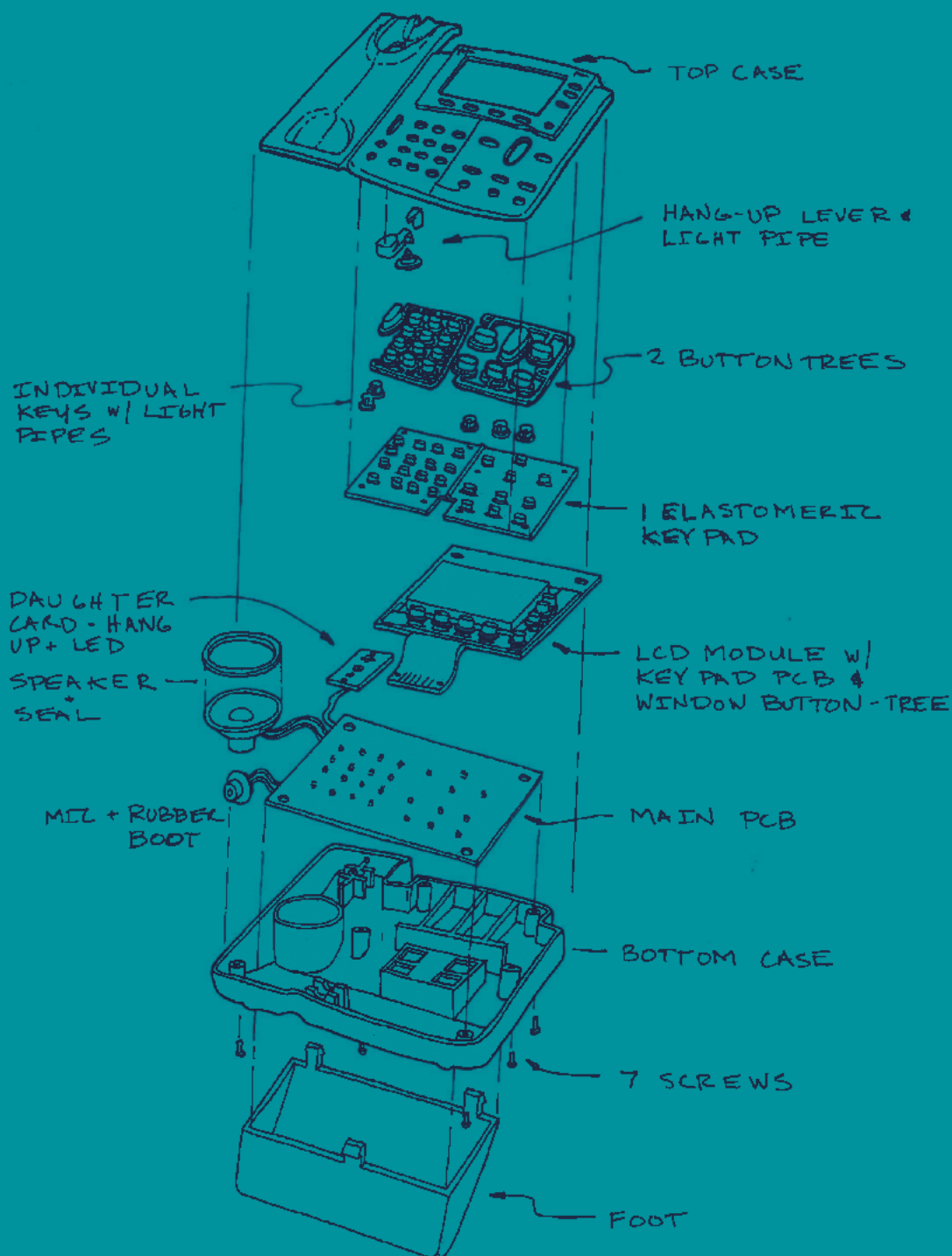
I witnessed the very opposite of this attitude at the beginning of my last project at IDEO. I led the team that designed Cisco's first line of VoIP desk phones. This was their first phone. Their first product that wouldn't live on a rack in a data center or a closet, but would instead be far more personal. I mean, this is a product that literally touches your face throughout the day. And when Cisco came to us in 1998, they didn't have any idea how to develop a consumer product or really anything with a user interface. What they did know about phones they had learned from a former Nortel marketing executive, who they'd hired a few weeks before retaining us, in order to drive the functional spec from their side.

I'll never forget our first meeting with this new

Cisco exec, who'd had decades of experience in the industry. With a devilish-seeming smile, he handed us a tear sheet of features and functions, jam-packed with detailed telephonic terminology and requirements that reflected zero compassion for the audience that mattered most—the user. We hacked through this dense jungle of clueless priorities to arrive at something easy to use, even if it was your first time making a call.

The 7900 series became the bestselling and last great desk phone in history because my team and I went out of our way to understand the existing beliefs that new users were bringing to the table. We met them where they lived, rather than expecting them to come visit our narrow assumptions. Doing this during the design process requires an uncanny ability to forget everything you know about the problem and the solution you're developing.

I've worked with some of the most talented designers out there. What distinguishes them is ▶

TOP CASE

HANG-UP LEVER &
LIGHT PIPE

2 BUTTON TREES

INDIVIDUAL
KEYS W/ LIGHT
PIPES

1 ELASTOMERIC
KEY PAD

DAUGHTER
CARD - HANG
UP + LED

SPEAKER
+
SEAL

LCD MODULE W/
KEY PAD PCB &
WINDOW BUTTON - TREE

MIC + RUBBER
BOOT

MAIN PCB

BOTTOM CASE

7 SCREWS

FOOT

that every time they look at something it's as if they're seeing it for the first time—not through the eyes of someone who has been grappling with the challenge for days or weeks, but through the eyes of a bright and shiny new user. It's having this perspective that will distinguish companies that get design from those that don't.

PROCESS > PRODUCT > PROFIT

The greatest creation in nature isn't any one species—but the process of evolution by natural selection, which has produced, in Darwin's words, "endless forms most beautiful and most wonderful." The greatest invention in history isn't any one device—but the scientific method, a process that has given us all the marvels of the modern world. Likewise, what will mark a company as being design-led won't be any single end product, no matter how trim and polished. No, a company where design is truly a core value is one that will value creating a process for creating great products and experiences, time and again.

It's rare that massive new product categories are launched at established companies. But after Jobs returned to Apple as CEO in 1997, he did it five times. It was because he had constructed a process—a set of plans, patterns, and protocols—for repeatable genius. Because, once again, design is more than aesthetics—it's a methodology for solving problems, which is different from the analytical approaches that business or technical entrepreneurs are usually taught. Designer founders see design as a process, a series of conversations and collaborations between various relevant parties. One designer founder who certainly does is Evan

" What really matters for a modern company is building design processes—lightweight methods and processes for problem-solving, creativity, and iteration. "

Sharp. He believes that, "The disease in our world is seeing the product as the goal, not the continuous journey."

Some astute readers may have noticed that I've thus far avoided referring to this method as "design thinking." There are reasons. For one, I believe that design thinking, as codified and popularized by IDEO, could use a little editing. More on this in the next chapter. The more significant reason that I've shied away from the term is that the concept goes back decades, and there are as many definitions of design thinking as there are Post-It notes at a 3M factory.
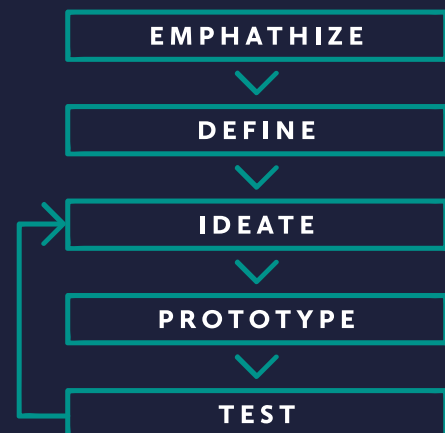
✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ▶

What I came to realize, through speaking with so many design minds, is that, though the specific terminology varies, design thinkers of various stripes are speaking a common set of fundamental truths about what design is. For example, *The Universal Traveler*'s "Seven Universal Stages of Creative Problem-Solving" doesn't sound all that dissimilar to IDEO's more famous five-step design-thinking process.

Nor is my conception of the design methodology for startups so different from these central verities. I think a startup's design process needs to begin by really trying to understand the users' experience and what the problem or ▶

"Seven Universal Stages of Creative Problem-Solving"

ACCEPT SITUATION
⌄
ANALYSIS
⌄
DEFINE
⌄
IDEATE
⌄
SELECT
⌄
IMPLEMENT
⌄
EVALUATE

IDEO's more famous five-step design-thinking process

EMPHATHIZE
⌄
DEFINE
⌄
IDEATE
⌄
PROTOTYPE
⌄
TEST

On an episode of the design podcast <u>99% Invisible</u>, host Roman Mars said,

"FOR ANYTHING COMPLEX, PERFECT DESIGN IS A MOVING TARGET" ⟶

I think that's <u>exactly right</u>. In this ever more uncertain, constantly shifting century of the designer, companies and especially startups **can never stop learning and adapting.**

opportunity truly is, not just the task at hand or the assignment given. It needs to generate ideas collaboratively. Turn those ideas into prototype solutions. Test your solutions in the real world, and then refine them.

As a side note, I think there should be prototyping with purpose. That is, I think it's important to be explicit about what specific question you're trying to answer with your prototype. If your question relates to user activation metrics, build a handful of lightweight landing pages to test a range of options. If your question can be answered with a simple beam calculation, do the math instead of building a prototype. Remember: prototypes aren't the point—feedback is.

Apart from that, my stations of design, as I said, are not so different from the process that other design thinkers have described. They're just slightly different routes to the same place. But the approach is incredibly effective at freeing creativity—and it scales. The same principles can be used to design chairs, shopping carts, electric cars, emergency-room procedures, customer experiences, organizational structures, even other processes. "I think I went to Stanford for product design," Kris Woyzbun, cofounder of Tablo Inc., told us, "because I still had that idea of a world where I design things….But then the d.school opened my eyes to this way of thinking about a problem that's more interesting than the final solution."

As I wrote earlier in this chapter, a company that's empowered by this type of design will be transformed. MBAs and engineers are taught to identify the opportunity set, find certainty in numbers, and optimize accordingly. But in an organization in which design processes are pervasive, they'll come to understand that not all problems should be treated as engineering problems. Some need to be broken apart, reframed, and put back together in a new synthesis.

If everyone in your startup is at least a little bit of a design thinker, the creative confidence of your business will increase and you'll be able to arrive at more innovative solutions. "If a company is ultimately in the service of trying to solve problems," said Nate Weiner, "I think designer founders are able to … apply that process and that experience in any [technical, design, or business] conversation.

Of course, big ideas aside, there will be mundane particulars of your process to be worked out. At Apple, for example, big projects are broken down into smaller tasks, which are assigned to teams, and those tasks are further broken down into subtasks assigned to a "directly responsible individual." (Stay hungry, stay foolish—but learn to project manage!) ▶

The product teams at Airbnb are organized around the customer journey. According to product manager Sarvesh Regmi, teams can touch any part of the product experience and conflicts are resolved—in design thinking fashion—by working out the assumptions behind competing approaches, framing them as hypotheses, discerning the unknowns, and testing via experiments.

✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳ ✳

At Abstract, a collaboration platform for designers, Josh Brewer's process for his designers is all about communication. Small, lightweight signals to one another that are easy to digest and incorporate into decision-making. Another benefit is that, as these communications are shared with all, everyone feels connected and involved
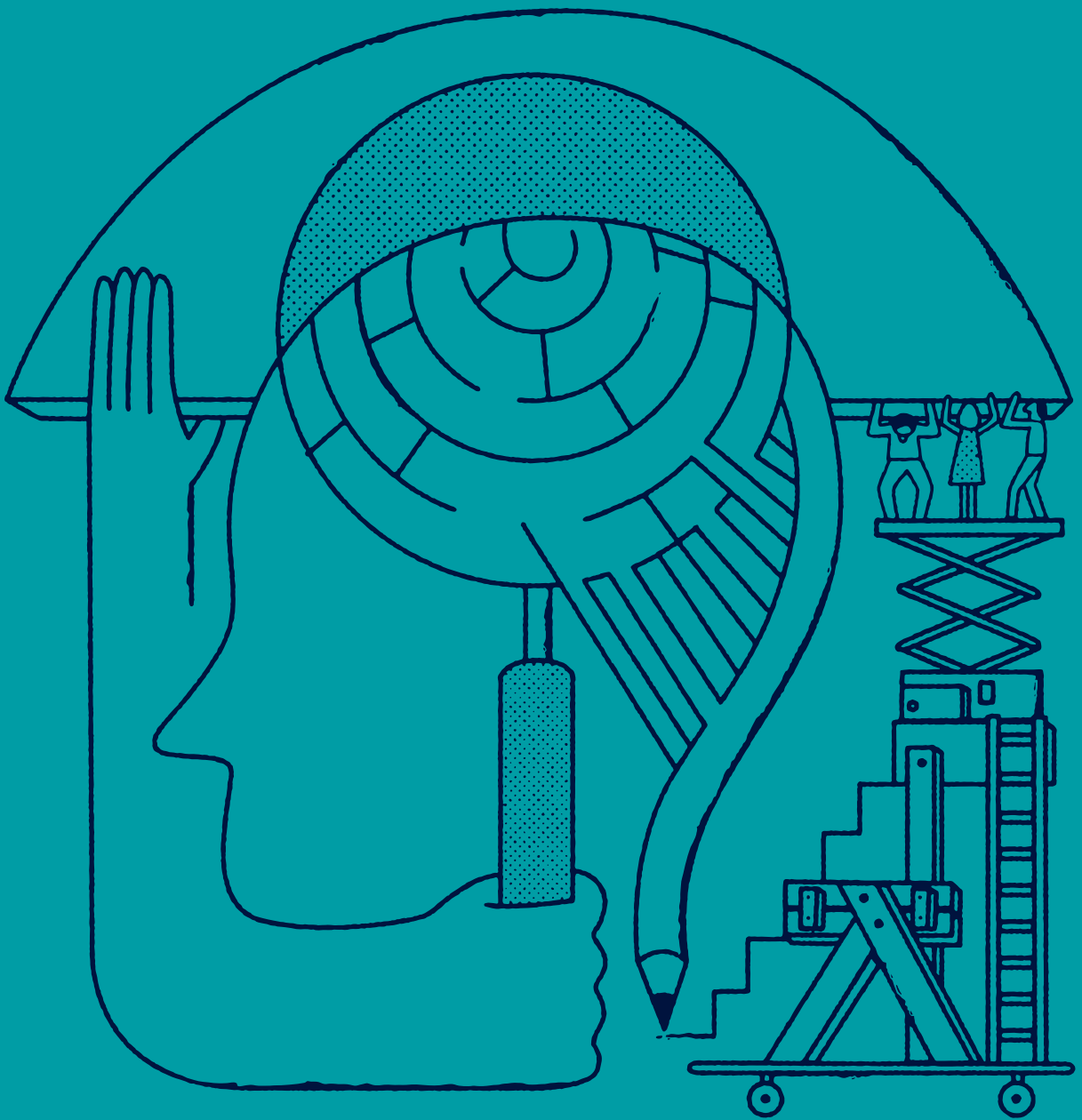
At Particle.io, a platform for IoT developers, they try to empower their employees so that "everyone can do design work and design-y things." Nobody works exclusively on hardware engineering, for example; rather, team members shift around to address various product needs, which ensures there's no lost productivity when hardware hits a lull in their cycle.

Tiffany Chu reported to us that at Remix, the urban-planning startup she cofounded,

We have a playbook for everything. A sales playbook, success playbook. It's a Google doc that we and our customers co-create. Like a shared bible. [Playbook is] a nicer way of saying process. Rather than saying I'm going to follow this process, it's saying, Look, we have a playbook and everyone at the company contributes their learnings to the playbook.

The point is, every company is different and you will have to find your own process for repeatable genius – one rooted in the principles of design thinking. But a process you must seek, because design no longer dead ends with a product or transaction.

On an episode of the design podcast *99% Invisible*, host Roman Mars said, "For anything complex, perfect design is a moving target." I think that's exactly right. In this ever more uncertain, constantly shifting century of the designer, companies and especially startups can never stop learning and adapting. Everyone in a business needs to learn to think more like a designer, because the Japanese principle of *kaizen*—or continuous innovation and improvement—applies to most every organization now. And a modern enterprise should, at its core, always be designing ●

Leveling Up: A Framework for High Performing Teams

By Heather Phillips, Design Manager at Designer Fund.

This version of the framework was presented at Source, a design leadership summit hosted by Designer Fund and Foundation Capital, on February 10, 2017.

	STAGE 1	STAGE 2	STAGE 3	STAGE 4
COMPANY STAGE	You have one or two designers. They're both generalists who are able to go deep in their areas of expertise. Your team brings in contractors to fill in the gaps.	You have a design team of 2-5 people. An experienced designer is stepping up to lead. Your team is mostly composed of generalists with unique backgrounds, and you start hiring specialists to support the company's goals.	You have a Head of Design. Design managers and leads are building their respective teams. In addition to specialists, you support junior designers seeking mentorship and growth opportunities.	You have a VP of Design, there are leaders for different design divisions, with layers of management within each, you have built out creative teams around areas most critical to your business.

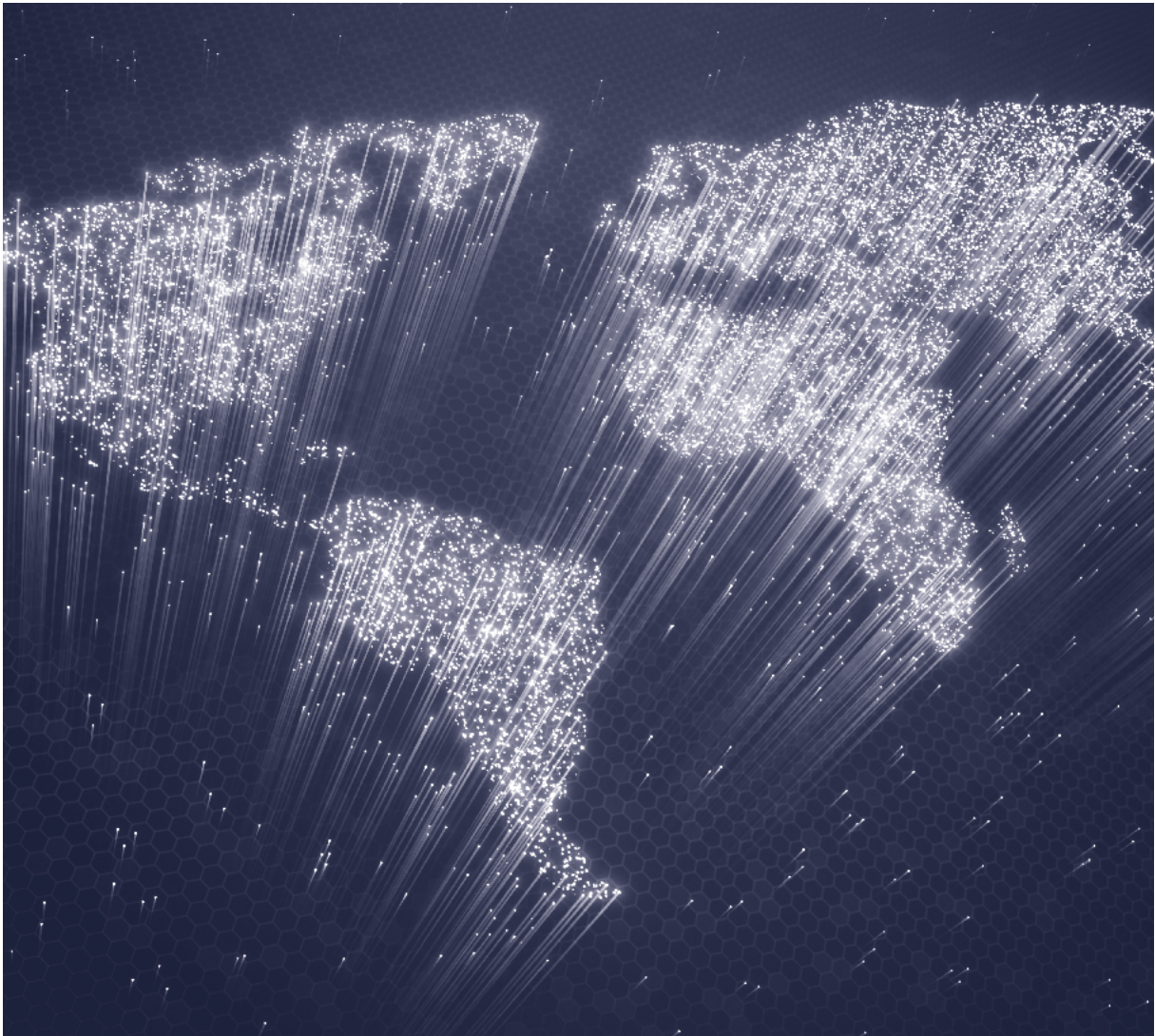|	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
PROCESS & DOCUMENTATION	You have no agreed upon design process. There is no standardized workflow. Check-ins, critiques, and reviews are ad hoc, if they even happen at all.	Your team has started documenting their design decisions. You have a working style guide and a clear way to share files with fellow designers and handoff assets to engineers.	You have style guides for different areas of design maintained by product/ engineering/ marketing. You have a process in place to onboard new designers to your team, equipping them them with the tools they need to work effectively.	Your team's process is clearly defined and all designers use it as a guiding framework for their work. You have defined principles and values, clear owners of the visual language, interaction standards, and more. The team shares work regularly and actively seeks feedback on their process.
COMMUNICATION & COLLABORATION	Your design team's methods of communication are fluid, most conversations happen in person, and in collaborative working sessions with your cross-functional team.	In addition to face-to-face conversations, your design team now has different modes of communication—Slack for quick feedback, Wake for in-depth feedback, etc. You're still learning to how to communicate most effectively within your growing team.	Your design team has agreed upon rules for communicating effectively. Designers are clear in their feedback and understand how to give it so people are receptive. In the broader company, people are open, regularly seeking feedback and input from design.	Your team has done facilitation training and difficult conversation training. Designers follow well-defined rules around critique—designers are clear about asking for the type of feedback they want. You effectively communicate with external partners about how to best work with design.
CRITIQUE & FEEDBACK	You don't have a formal critique process. Designers help facilitate feedback from other members of your team in addition to seeking outside perspectives from designers in the community.	Your design team has time set aside each week for critiques in which they share progress and elicit feedback from other designers. Impromptu conversations are happening in between weekly critiques to keep momentum.	Your team hosts critiques at key points of the design process, and invites key stakeholders to participate. These critiques have a schedule for who is presenting and clear rules for engagement. You use this opportunity to educate non-designers on how to give productive feedback. In addition, you introduce more scalable methods of collecting feedback over Slack, Wake, etc.	Design managers are responsible for scheduling and facilitating critiques for their respective teams. The design team proactively assesses all work produced by the company, even work outside of design, and has a process in place for improving it. Works in progress are visible to the broader company by way of pin-ups, internal tools, and design team announcements.
DEVELOPMENT & COACHING	You have opportunities to learn from your colleagues, but there's no other design expertise at the company so you have to find it elsewhere.	Your design team has budget for professional development to put towards internal workshops, coaching and attending external conferences and classes.	You bring in industry experts to develop your team. Designers participate in opportunities like Bridge and are encouraged to set up plans for skill development with their managers.	In addition to professional development opportunities made available to your entire design team, your Head of Design has a dedicated leadership coach, and the company offers similar services to up-and-coming design leaders.
RECRUITING & LEVELING	You have yet to hire an in-house recruiter. Designers on the team are responsible for preparing job descriptions, defining the interview process, and sourcing from their own design networks.	You have an in-house recruiter to help with sourcing and scheduling, but the design team drives the interview process and defines assessment criteria. Designers at your company are active in the broader community and use their connections as a source of referrals.	You have an in-house recruiter focused on building your design team. You have created a clear hiring plan and corresponding job descriptions. Information is readily available about your design team's culture and process to share with candidates and attract inbound applicants.	Design roles, levels and compensation are clearly defined. You have a dedicated design recruiter and a refined process for assessing candidates. Interviewers have undergone training—questions and design challenges have been vetted to avoid bias. Your design team has a website to showcase the team and ethos.
SPACE & SEATING	Your entire company still fits in one room. As a designer, you're seated next to the engineer who's building what you're designing. You're likely in a co-working or temporary office space, you haven't invested in your environment in a meaningful way.	Your design team sits together, ensuring plenty of opportunities to collaborate with one another, as well as cross-functional teammates. You have areas to pin up work in progress, and hold collaborative work sessions. You have a design library with resources and inspiration.	Designers have a 'home base' for heads-down work. There is a design team common area for dedicated design sprints. Designers have access to a resource library and tools for printing, prototyping, and other forms of creative expression.	Design is influencing the space for the entire company. This impacts decisions around the floorplan, furnishing, the proximity of different departments and how they interact within the space. Design permeates the entire culture.

RE-THINKING

THINKING

DESIGN THINKING

Now, I think that design thinking is one of the most important "dangerous ideas" of the 21st century. Its impact on product design, on how organizations go about solving problems, and on how we live our everyday lives has been profound. But it's been 15 years—a generation—since David Kelley had his epiphany to stop calling IDEO's approach "design," and start branding it as "design thinking." And a lot's changed.

ach day now we generate 2.5 quintillion bytes of data—from internet posts, mobile phone activity, IoT sensors, purchase transactions, and more. So much data that over 90% of it in existence was created in just the last two years. Two years of Twitter tweets produce more words than are contained in all the books ever printed, combined. This year, 85% of the 1.2 trillion photos taken will be captured on smartphones. The first camera phone was manufactured in 2000. At about the same time that David's "design thinking" lightbulb was going off, in 2002 a full human genome sequence cost $100 million. These days it can be done for $1,000. And by 2020 it'll cost less than a movie ticket.

In the intervening period, design thinking has enjoyed endless press coverage. Universities, businesses, non-profits, and science labs run design sprints based on its principles. The concept is even taught at some elementary schools. It's perhaps inevitable that when an idea gets this popular, it becomes a victim of its own success. And I think, to some degree, this has happened with design thinking. People who are barely trained in the process become so-called design-thinking instructors. Practitioners struggle to define the term clearly. And, worst of all, some of the core tenets of design thinking have, in my observations, been watered down or misapplied.

🔶 *Map of fiber-optic connections.*

What's more, as the world has grown more complex, I believe that the version of design thinking that we've been working with for the past generation needs to evolve, in order to account for these dramatic changes. I think, in other words, that design thinking needs tuning up and updating (Design Thinking 2.0, anyone?). Therefore, in the spirit of suggestions for further thought/study/debate, let me offer two directions for a critical refresh 🔶

EMPATHY OVERLOAD

I've had my fill of empathy. Or to be more specific, all the talk of empathy in recent years. Don't get me wrong. I'm all for a human-centric approach to design, one that puts the user first and attempts to understand how the world looks to them, as I've argued throughout this book. But in design circles and many other fields, empathy has become little more than a buzzword which, at its most vacuous, seems to mean nothing more than a soft bleating sound made when a small animal is in pain. At its most cynical, it's a Silicon Valley euphemism for market research.

A s one colleague pungently put it, "Empathy is a rathole." I'm not sure I would go quite so far, but for the sake of semantic integrity, alone, I think that we as a community of design thinkers should self-impose an 18-month moratorium on using the word.

There are other reasons to be cautious of being overly led by empathy. For one, empathy

as an emotion has its limits. As the recent presidential election underscored, there's only so far the average tech worker in Silicon Valley can go in understanding the thinking of Trump voters in the Rust Belt and South, and vice versa. When we're talking about building things to be used by hundreds of millions of people, there's no way a highly paid 20-something white male designer at Uber or Instagram or Google can reasonably hope to empathize with end-users in parts of the country or world with which he's had no meaningful contact. To truly understand this audience, he would have to go live among them: interview them; gather intel on their behaviors, lifestyle, and concerns; probe how they make use of the products he makes.

"Empathy" was David Kelley's shorthand for this type of ethnographic research. And, to be fair, that's what some design thinkers still have in mind. But over time, through overuse, when most designers talk about empathy, they don't seem to me to be referring to fact-gathering at all, but something more like feeling-broadcasting. Empathy in design has gone from an outward-facing action to an inward-turned affect. I think it might be too late to protect the design-thinking denotation of the word from the layman's definition. Regardless, I would urge us as a discipline to practice rigorous evidence-based compassion, rather than trying to feel people's pain.

In my own experience working with designers, it's struck me that decisions were often made at the end of sentences that began with phrases like "I believe" or "I feel." But today, we don't have to rely solely on gut emotions like empathy, and we can go even further than ethnography. We can let the data tell us what will work and what won't. We can use tools like Optimizely to test multiple designs in real-time; to compare alternative concepts in minutes and hours rather than weeks or months; to let data weave its way into the design process. At Airbnb, for example, they're using structured data to help ensure that the quality of the homes is improving, to create a better experience. ▶

" Build something, put it out in the world, collect data, collect feedback, make adjustments. "

Most designers and many engineers have heard of the concept of "T-shaped" people—individuals with depth in a given domain complemented by a familiarity and, at a minimum, a healthy respect for the adjacent disciplines required to build and launch a successful product. But if you want to build enduring companies and really earn your seat at the table, I think you need to be π-shaped. That is, you need to have depth in both the creative and the analytical. You need to be left- and right-brained, empathetic and data-driven

This isn't to say you should always defer to the data. Algorithms can't fully account for the human element. Joe Gebbia said that if he had listened to the analytics in 2008, when Airbnb had zero growth, no investors, and a lot of credit card debt, he would've shut the service down and cut his losses. For months, the data were telling him this idea was never going to take off, and he should go work on something else. But he refused to listen to the data. In a way, he was refusing to listen to the users, as well, because they were telling him that they weren't very interested in what he was currently offering. Instead, he soldiered on and did still more things that couldn't be defended by the numbers—like fly to New York to try to plumb the causes underlying their lack of growth, in order to save the company. Because the data can tell you *what's* happening, but they can't tell you *why* it's happening—especially when it comes to radical

new ideas. And, most importantly, Joe didn't give up because he ~~is insane~~ had a vision. In the final analysis, no amount of empathy is a substitute for having a vision.

In fact, <u>too much empathy can kill your company</u>. If you think design is going out, ex ante, asking users what they want and then trying to give it to them, you will fail. As Jobs said, "It's really hard to design products by focus groups. A lot of times, people don't know what they want until you show it to them." Or, as I sometimes like to put it, *invention* is the mother of necessity. Build something, put it out in the world, collect data, collect feedback, make adjustments. <u>Build; don't ask</u>. Listen to your users in real-time, but don't be a slave to narrow consumer cravings.

Now, not every idea hits its target, and of course, there are plenty of products that don't deserve to exist. But I can tell you for sure that the most successful startups are those that created the markets that they ultimately owned. And at one time in their life, many—if not most— onlookers thought it was a crazy or stupid idea. These founders—like Jobs, like Joe—navigated their way through the fog by figuring out when to listen to the market and when to listen to their inner compass.

So, have a vision of the future that you want to bring people into the light of. Then provide the one thing that we as designers are best capable of providing: creative leadership ●

In fact, **too much empathy can kill your company**. If you think design is going out, ex ante, asking users what they want and then trying to give it to them, **you will fail**. As Jobs said,

"IT'S REALLY HARD to DESIGN PRODUCTS BY FOCUS GROUPS. A LOT OF TIMES PEOPLE, DON'T KNOW WHAT THEY WANT UNTIL YOU SHOW IT to THEM."

SYSTEMS UPGRADE

The world is now a profoundly interconnected place. Here are some additional factoids to illustrate how we touch, and are inextricably in touch with, each other at every moment. We are halfway to connecting everyone on the planet, with 3.7 billion internet users worldwide. In the U.S., 99% of 18- to 29-year-olds use the internet. Smartphones have become ubiquitous: roughly half the world's adult population owns one and it's projected that by 2020 the figure will climb to 80%. WhatsApp was founded less than a decade ago, but now traffics in 10 billion more messages a day than the SMS global text-messaging system. And never mind six degrees of separation—just off the top of my head, I'm one degree removed from both Barack Obama and a Bhutanese Sherpa.

We live in a massively, intricately interconnected global system. Your startup will be enmeshed in this system. And it's increasingly impossible to be designers (or human beings) without taking into account how we affect and are, in turn, affected by all the moving pieces of this organic machine. "The more complex an organism is," says artist and teacher Adam Wolpert, "the more capable it becomes. And the more capable it is, the more it can address challenges and seize opportunities. The downside of that is, the more complex it becomes, the more vulnerable it becomes." The challenge for designers, increasingly, is learning how to balance the production of ever more complex capability against the threat of a resultant breakdown. That's why I think design thinking, which emphasizes solving problems holistically, needs to look at a bigger whole by incorporating another body of thought: systems thinking.

Systems thinking isn't new—though most designers I've spoken with are unfamiliar with it. It's a mode of analysis that's been around for decades. But I think it has newfound relevance for today's everything-is-networked, Big Data world. Systems thinking is a mindset—a way of seeing and talking about reality that recognizes the interrelatedness of things. System thinking sees collections of interdependent components

as a set of relationships and consequences that are at least as important as the individual components themselves. It emphasizes the emergent properties of the whole that neither arise directly, nor are predictable, from the properties of the parts.
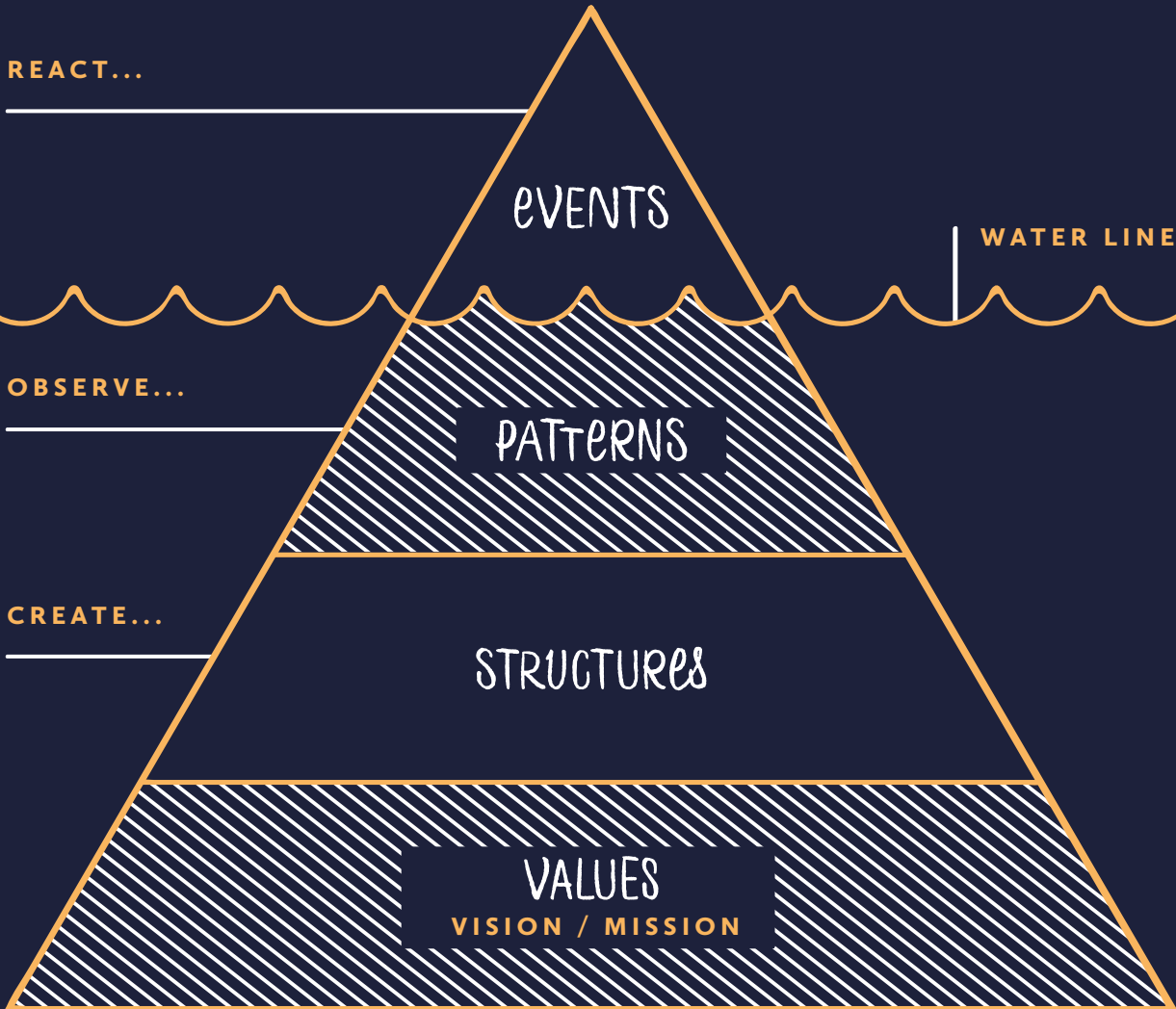
Systems thinking can be used to explain and understand everything from inventory changes in a supply chain, to populations of bacteria and their hosts, to the instability in Syria, to the seemingly irrational behavior of certain elected officials. The vocabulary of formal systems thinking is one of causal loops, unintended consequences, emergence, and system dynamics. And practicing systems theorists employ tools such as systemigrams, archetypes, stock and flow diagrams, interpretive structural modeling, and systemic root cause analysis—all of which is waaay beyond the scope of this book.

For the purposes of this treatment, I'll simply introduce the Iceberg Model and briefly discuss two key concepts in systems thinking, emergence and leverage points.

The *Iceberg Model* is a helpful way to explain the concerns that drive systems thinking. Events are at the top of the iceberg. They're incidents that we encounter from day to day—the hurly-burly ▶

THE ICEBERG MODEL

REACT...

EVENTS

WATER LINE

OBSERVE...

PATTERNS

CREATE...

STRUCTURES

VALUES

VISION / MISSION

> **" Systems-savvy designers will know the real answer is to unearth what patterns or assumptions are generating those suboptimal behaviors. Not just what happened and when, but how and why these things happened. "**

of life. Patterns are the accumulated habits or behavioral "memories" that result from repeated, unconsidered reaction to events. Systemic structures are how the components of the system are organized. These structures generate the patterns and events that confront us. Mental models are the assumptions we have about how the world works; they give birth to systemic structures. Values are the vision we have for our future—what we aspire to. They're the basis for our mental models.

Mostly we live at the level of events, because it's easier to notice events than it is to discern hidden patterns and systemic structures. Even though it's underlying systems that are actually

driving the events we're captive to. It's there, at the tip of the iceberg, that we expend most of our energies and attention, and like the Titanic, it's there that we run aground because we don't see the truth of the problem—the variables and influences lying below the surface. We take actions without understanding the impact of those actions on the system, making the situation worse.

As an apocryphal illustration, let's say, there's a cup of coffee made at Philz that isn't perfect (WUT!). That would be an event. A pattern would be noticing that there's a higher frequency of imperfect coffees that are produced during shift changes from the morning to afternoon ▶

Systems thinking is a **mindset**—a way of seeing and talking about reality that recognizes the interrelatedness of things.

System thinking sees collections of interdependent components as a set of relationships and consequences that are at **least as important** as the individual components themselves.

It emphasizes the **emergent properties of the whole** that neither arise directly, nor are predictable, from the properties of the parts.

to evening barista staff. Perhaps the systemic structure generating this pattern of defective coffees is that the shift changes are scheduled so as there's no overlap between the incoming and outgoing teams of baristas.

The mental model that the baristas hold leads them to believe that they're only responsible for the Canopies of Heaven and Philharmonics that they make, not the team after them. And say, the value that drives that belief is one of competition—of wanting to make better cups of Philz than the other shifts, and therefore not being concerned about the pour-over apparatus being properly cleaned, or the beans correctly ground and apportioned, at the end of a shift.

End nightmare scenario. Back to your regularly scheduled Mint Mojitos.

〜〜〜〜〜〜〜〜〜〜〜〜〜〜〜〜〜

It's usually the case that moral character or human error are blamed for what are really system failures. The people who made the mistakes—the "bad apples"—need to be reprimanded, retrained, or fired. But systems thinkers understand that these are symptoms and not causes. Systems-savvy designers will know the real answer is to unearth what patterns or assumptions are generating those suboptimal behaviors—the *bad containers*, as Stanford

psychologist Philip Zimbardo puts it, rather than bad apples. Not just what happened and when, but how and why these things happened.

Adam Wolpert, my systems-thinking Obi-Wan, shared a real-life example with me of putting this mindset into practice. He was asked to help ameliorate fraught conditions at a cohousing development in Sebastopol. The development, which was made up of 35 people living in 22 units, was riven with conflict and coming apart. When Adam arrived on the scene, he conducted a systems mapping exercise to determine what the boundaries and priorities of this landscape looked like. What soon became apparent to him was that…

This thing is not a thing. It's actually a couple *of things. There's one boundaried system of people who want to live in a community, and be really connected and engaged … and really make a family. And then there's another group of people who want to live in the neighborhood, and they want to be good neighbors and live in a cool place … but they're not interested in being an intentional community….*

The people who … just wanted to live in the neighborhood, they were being ▶

vilified by the intentional-community people….They were being thought of as slackers, of not showing up … But if you really looked at it from their point of view, you saw this whole other framework. Which was really what the whole needed to come into a healthy balance and move forward.
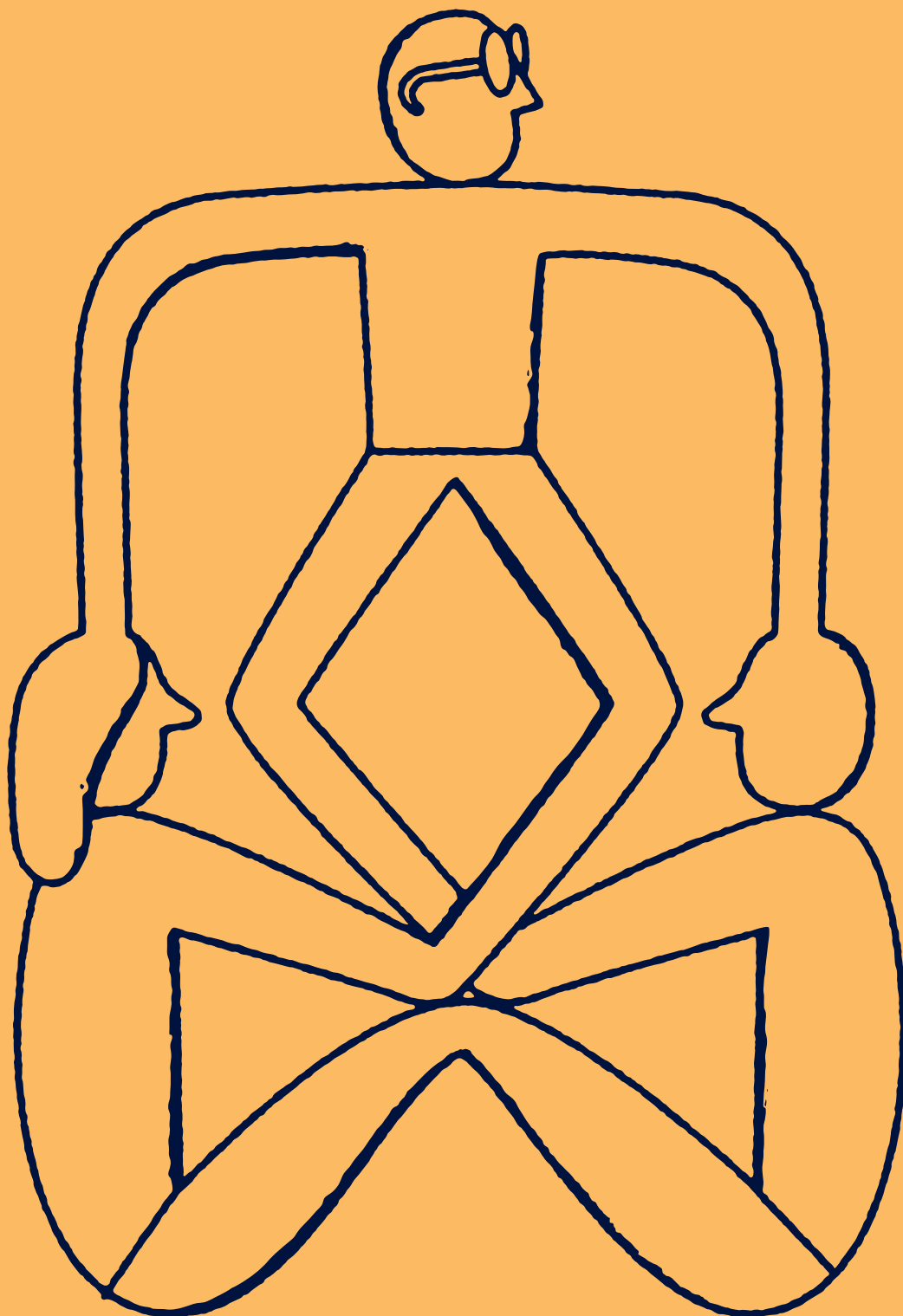
Two key concepts to understanding systems thinking. The first is *emergence*. What makes a system a system rather than just a collection of parts is that the components are interconnected and interdependent. Their interconnectedness creates feedback loops, which change the behavior of the system—in fact, they define the behavior of the system. Emergent properties arise that exist only in the system as a totality, and not in its disparate components, making it impossible to understand the system without looking at the whole.

You can't understand how we get to an anthill by looking at a single antenna or thorax. A Tesla driving down 280 is an emergent property of the innumerable parts that go into making the car—as well as the national grid of recharging stations that had to be built and the web of regulatory oversight that needed to be navigated. In the inextricably connected world we now live in, it's no longer possible or wise to solve for the part without due consideration of the sum of the parts.

It was an awareness of this reality that led Alta Motors, an electric motorcycle startup, ▶

> " **Rather than attempt to design a wholly new, perfect solution, oftentimes it's better to find areas where an incremental change will lead to significant renovation in the system. The smallest nudge for the <u>biggest effect.</u>** "

> **" The challenge is to rise above the distraction of the details and widen your field of vision. Try to see the whole world at once and make sense of it. It's a heady challenge, yes. But you either design the system or you get designed by the system. "**

to delay going to market. "We took a systems-design approach," said CTO Derek Dorresteyn, "We optimized all of these things to work in concert together to get to the goal, which was the user experience. If we went to market too early, we would get locked into certain technological approaches....So we could only make a change in the future by changing three things at once instead of just one."

So how are designers supposed to address this onslaught of socioeconomic, techno-political complexity? I think the trick is to analyze systems with an eye towards finding *leverage points*— the second key concept in systems thinking.

Rather than attempt to design a wholly new, perfect solution, oftentimes it's better to find areas where an incremental change will lead to significant renovation in the system. The smallest nudge for the biggest effect.

"Everything is networked now," in the world according to Evan Sharp. "All of culture, all of communications, it all is going through networks." Therefore, at the scale of seven billion people, "any small little improvement you make has massive aggregate value." This will cut against the grain of most designers' instincts, because the end-result will likely be far from an ideal proposed design, but designing for the real world means dealing with the practical constraints of that reality and trying to make refinements in the face of compromise.

Now, I don't want to oversell systems thinking. It's not always possible in real-world cases to reasonably model very complex systems in ways that lead to good design strategies and outcomes. Systems thinking will also be novel and perhaps somewhat jarring to many designers, because as designers we're usually laser-focused on a single, discrete design problem. But when appropriate, applying a systems mindset to design thinking will give designer founders a powerful tool for circumnavigating the problems of the age. Focus on relationships over parts; recognize that systems exhibit self-organization and emergent behaviors; analyze the dynamic nature of systems in order to understand and influence the complex social, technological, and economic ecosystem in which your startup exists.

Some designer founders, like Moxxly's Gabrielle Guthrie, understand this even without training in systems thinking:

> *The outcome could be a physical product, a system, or culture…. To be a designer founder, you have to care about the broader situation. It's a Russian doll, or a "Powers of Ten" thing. You're working on a particular thing, and you think about how it fits into the mindset of the larger team, how it works with your users,*
> *or for the company. You have to be looking at many different angles and be very agile.*

The challenge is to rise above the distraction of the details and widen your field of vision. Try to see the whole world at once and make sense of it. It's a heady challenge, yes. But you either design the system or you get designed by the system. Moreover, while this nonlinear way of thinking might seem alien at first, rest assured that it won't be long before it feels like second nature—because it is. No one put this more beautifully than the late sustainability pioneer and systems scholar Donella Meadows:

> *Only a part of us, a part that has emerged recently, designs buildings as boxes with uncompromising straight lines and flat surfaces. Another part of us recognizes instinctively that nature designs in fractals, with intriguing detail on every scale from the microscopic to the macroscopic. That part of us makes Gothic cathedrals and Persian carpets, symphonies and novels, Mardi Gras costumes and artificial intelligence programs, all with embellishments almost as complex as the ones we find in the world around us* ●

THE
DESIGNER
FOUNDER'S
MANIFESTO

CHAPTER 5

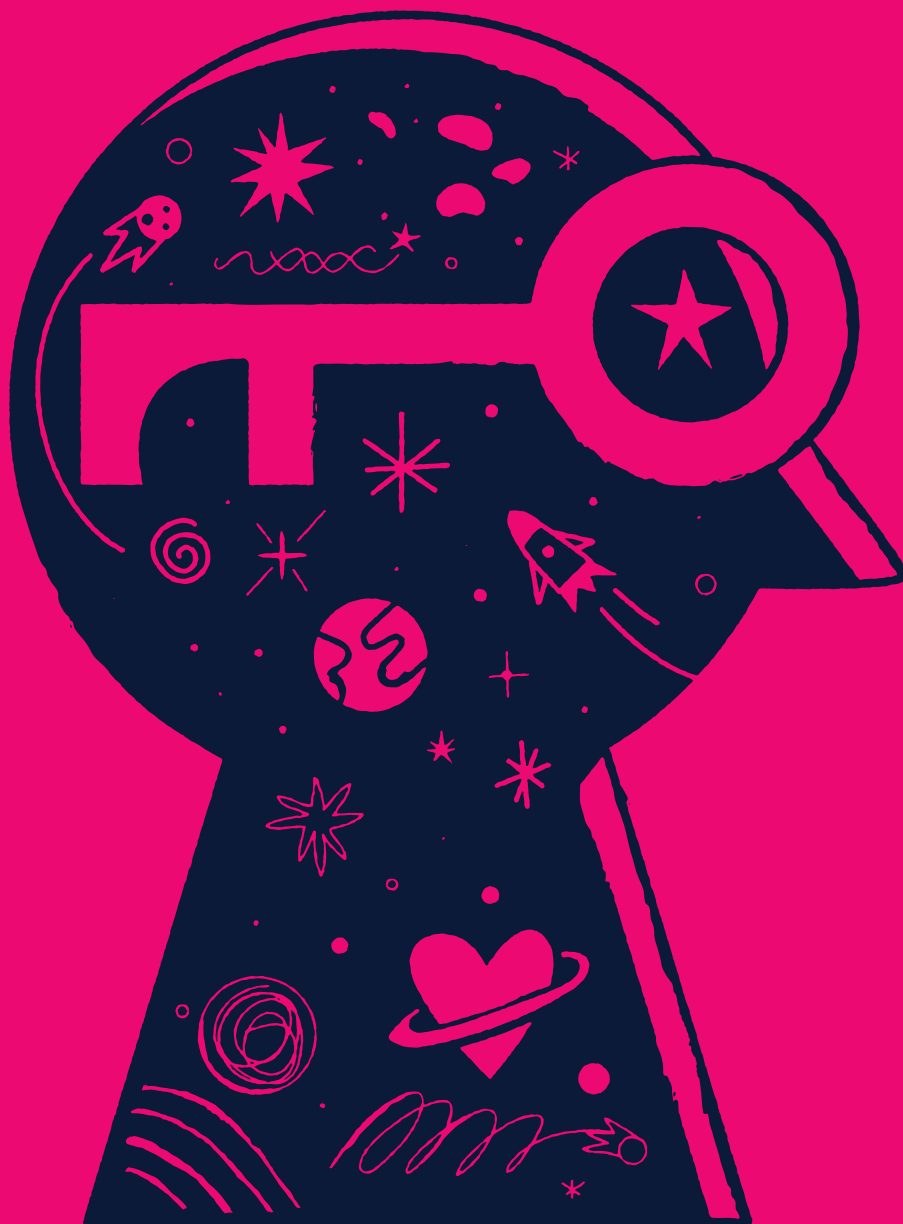**Grace eludes us. The world is an imperfect place. Imperfect, ignorant, and troubled. Our planet hit its hottest temperature on record in 2016, smashing the record set the year before, which broke the one set in 2014. More than 200 million people remain unemployed globally following the economic crisis of 2008. Your country elects a vulgar, illiberal demagogue to the presidency. The internet is an ocean of molten partisanship and rank disinformation. Your baby brother is felled by a rare mitochondrial disorder and dies two weeks after his 42nd birthday.**

For me, Mike embodied one of the core themes of this book: the power of scale. At 4'11", 100 lbs., my brother always demonstrated strength that far exceeded his size, and compassion that far exceeded what is common. He went on grand adventures—cruising the Alaskan waterways, heli-hiking the Bugaboo Mountains, seeing the Great Pyramids of Egypt. He understood the role of kindness as a massive force multiplier,

and the value of persistence in the face of adversity. In a conversation I had with him right at the end, he said: "Let's go. Let's get out of here." His premature death put so many things into perspective. It was a reminder of what really matters in life, including taking on challenges of import and scale.

As the world grows more complex and uncertain, I believe that designers have both a moral obligation and a unique ability to take on ▶

the great challenges of our time. To address real-world problems, rather than bury their heads in the pixelated sand. I'm not talking about building apps that make it easier for bros to have a good time on Saturday night. I mean helping to solve problems of consequence.

Most of the calamities that we face are systemic ones, which have been caused by an insufficient understanding of, or an utter disregard for, what is human. For how people engage with and impact each other and our world, and are impacted in kind. Most of these woes could be alleviated, even cured, by building solutions that are truly human-centered. And no one is better equipped to do that than designers.

Putting aside the fancy definitions, design to me is ultimately something fundamental and optimistic. It's the predilection to investigate and understand. It's the compulsion to give form to ideas and to make sense of disorder. It's the ability to amend the imperfect. I've felt its pull, like a primal force, from the moment I stacked my first LEGO brick as a child. And when I see young designers at work now, I can hear it calling to them, as well.

But with this particular power, comes a particular responsibility. Yes, the world is flawed and benighted, callous and unjust. My challenge to you is: Design better.

Build a world where ordinary people feel like they have a chance, where technology leads to our elevation rather than our degradation, where all our fellow citizens are respected and would-be tyrants resisted, where the undefended and helpless everywhere are given succor, and where the Earth that holds us is safeguarded.

I reject half measures. *The Universal Traveler* describes creativity as "constructive extraordinary behavior." And that is what I ask of you—emphasis on "extraordinary." Find creative opportunities to effect large-scale positive change. Today, you have the tools and no excuses. Put your design powers to epic use. Take dragon-scary risks, build giant-size ventures. I don't want you to touch up society's great afflictions with a magic wand. I want you to slay them with a sword.

If you're holding back, then the only thing you're fighting is yourself. If you're waiting for someone to give the word, then consider the word given. And if you fear you'll get lost in the woods, you're mistaken. There is a diverse and affably weird community of designers and designer founders willing to help guide you, including me. You won't walk alone.

These years ahead will be trying ones, but, to borrow from Clarissa Pinkola Estés: "My friends, do not lose heart. We were made for these times." Take the spark that's within you and the skills that you've honed, and use them to light up the whole damned planet. Build a finer, kinder, wiser, more equitable, more beautiful, more joyful world. Design better ●

Mike (left) and Steve take on the world.

" **Build a world where ordinary people feel like they have a chance, where technology leads to our elevation rather than our degradation, where all our fellow citizens are respected and would-be tyrants resisted, where the undefended and helpless everywhere are given succor, and where the Earth that holds us is safeguarded.** "

These years ahead will be
trying ones, but, to borrow from
Clarissa Pinkola Estés

"MY FRIENDS, DO NOT LOSE HEART.
WE WERE MADE FOR THESE TIMES."

Take the spark that's within you and the
skills that you've honed, and use them to
light up the whole damned planet.

BUILD A

FINER

KINDER
WISER

MORE BEAUTIFUL

MORE
EQUITABLE

MORE JOYFUL WORLD

DESIGN BETTER

ACKNOWLEDGMENTS

Only in the Spring of 2016 did *The Way to Design*, which I've had on a slow boil for several years, become real. It was then that we pulled together a team at Foundation Capital to treat the initial question as a design challenge. I owe them my first and biggest thanks. Thank you, Melissa Miranda, for being an incredible partner on this project and leading the designer-founders research. Thank you to Sang Ngo for the gift of your synthesis and prose, and for making me sound 100x better than I ever could on my own. Thank you, Meg Sloan, for your insight and for pushing us all to think bigger. Thank you to Catherine Harrell for raising the excellence quotient on everything you touched. Thank you, Melissa Costello and Robyn Basso, for making sure *The Way to Design* machine ran smoothly.

Thank you, Ben Blumenfeld and Enrique Allen, for sharing, so generously, your own experiences in support of designer founders. Thank you to our design partners at Human After All—Danny Miller, Rob Longworth, James Round, Sarah Cadwallader, Andy Tweddle—who crafted a visual language to make the prose come alive to the senses. Thank you, Christopher DeLorenzo, for the joyous and brilliant illustrations.

Thank you to my brother Mike for your grace and grit, and for being my first fellow traveler in life. To Steve Jobs for transforming the role of design forever and for the better. To David Kelley, for opening my eyes to the power of design and for devoting your life to inspiring young minds.

This project would have been impossible without the unselfish input of scores of designer founders, design scholars, and designers. Starting with model designer founders Joe Gebbia and Evan Sharp. Design legends and dear friends Diego Rodriguez and Bernie Roth. As well as the invaluable contributions of Adam Ting, Adam Wolpert, Adrian James, Alexis Finch, Barry Katz, Bob Baxley, Caleb Elston, Daniel Scrivner, Dave Baggeroer, David Sherwin, Deepak Thomas, Derek Dorresteyn, Gabe Trionfi, Gabrielle Guthrie, Gentry Underwood, Greg Duffy, Ian Taylor, Jesse Genet, John Proksch-Whaley, Jon Fox, Jon Logan, Josh Brewer, Junji Hase, Katy Mamen, Keenan Cummings, Kris Woyzbun, Kyle Doerksen, Loren Baxter, Marc Fenigstein, Mark Kawano, Nate Weiner, Ravi Akella, Richard Whitney, Santhi Analytis, Sarvesh Regmi, Scott Klemmer, Shanna Tellerman, Shireen Yates, Tiffany Card, Tiffany Chu, Tricia Choi, Wei Lien Dang, and Xander Pollock. Thank you for sharing your stories and your wisdom, especially when so many of you were in the midst of your own crazy-busy entrepreneurial journeys ●

THEWAYTODESIGN.COM