

A FREE EXCERPT FROM

THINK LIKE THE D-SQUAD

**Notice. Wonder.
Test. Zoom Out.**

by

Phil Weiss

*Inside: the Author's Note, the Introduction, and Chapter 1—plus
the Glossary, the Four-Dog Field Guide, and more from the front
and back of the book.*

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For Kim—

The Backbone of the Family

*who spent countless hours teaching our sons that
giving up was never the option, and who never gave
up on them.*

You lived the lesson long before I wrote it down.

And for our two boys, who never gave up either.

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A Not-So-Typical Author's Note

If you're a kid and you want the dogs, jump ahead to the Introduction. This part is mostly for your grown-ups. Come back later. Some of it is about you.



My sons were born three months early. They weighed one pound, thirteen ounces each.

The prognosis was terrifying

The doctors were honest: there was a good chance they wouldn't make it. If they did, blindness or severe brain damage were very real possibilities.

My wife and I spent more than three months in the hospital waiting to find out which world we were going to live in.

We were blessed, some will say lucky. They made it. They came home on a cardiorespiratory monitor that

tracked every breath. They came home with stage three retinopathy, the exact thing that causes the blindness the doctors had warned us about. It ultimately resolved. And they also came home with learning differences that would shape everything about how they grew up: how they learned, how they processed the world, how hard they had to work for things that other kids seemed to get easily. They faced challenges every single day, and what we learned as a family was that the only way through was to teach them to think differently. Not harder. Differently.

We were fortunate. With the help of family, our boys were able to attend a school specifically designed for kids with learning differences. The teachers there didn't try to force my sons into a shape that didn't fit. They found the shape that did. That made all the difference.

I know not every family has that option. I know that most don't.

They figured out how to think their way through

Both my sons are twenty-three now. One is a paramedic and is applying to nursing school. The

other became a licensed real estate agent right out of high school, passing his exam on the first try, but eventually realized it wasn't the right path for him. He pivoted, went to college, earned his associate degree, and is waiting to hear back from the University of South Florida's Muma College of Business, where he plans to major in Artificial Intelligence (AI) and Business Analytics.

I watched two kids who weren't supposed to survive grow into two young men who figured out how to think their way through a world that wasn't designed for them. I'm not sure I've ever been prouder of anything.

I was that kid, too

I know that world from the inside. I grew up in the sixties and seventies, and I was a poor student. The kid who didn't get it, who didn't fit the classroom. I still remember being in second grade and getting pulled out of class for remedial reading. The kid who walked down the hall while everyone else stayed behind.

That was the start of it. In fourth grade, when the class started cursive, my handwriting was so bad the teacher told me, "It's a waste of time. Just color." My

mother went to the school and battled until they gave me a cursive workbook. The basic one, not the one everyone else got. But I learned it. They were already giving up on me at nine. She wasn't. By eighth grade, I failed three of my four major subjects (English, social studies, and science) and barely scraped a C in math. They sent me to summer school and then passed me on to ninth grade anyway. That was the same year I failed the state-mandated Minimum Basic Skills test. While other kids moved forward, I was placed in a remedial basic skills course in tenth grade, ultimately fighting my way to pass the test in eleventh grade. It was during this period that my parents took me for testing; they never told me the full results, but I remember my mother crying and my father telling me something I already knew: I learned differently.

My parents did everything they could. But this was decades ago, and back then, most people simply didn't understand these things the way we do now. There was no clear explanation for me, no plan, no special school. I just knew I was struggling, and I still didn't know why. I only recently learned that there was another piece to that story. As an adult, I was diagnosed with autism and ADHD. Finding out

didn't change who I am; it simply gave me another way to understand how my mind had worked all along.

A kid like me today might have an IEP and a whole team behind it: teachers, specialists, parents at the same table. Back then, we were just put in the slow group.

Here's the part nobody at school knew. Almost fifty years ago, in eighth grade (the same year I was failing three of my four subjects), I was fourteen and playing backgammon tournaments at night. Not kitchen-table games: sanctioned tournaments, with a director, a draw sheet, and master points on the line. The rules said you had to be sixteen to enter. Maybe eighteen; I honestly no longer remember. The director let it slide. I played against adults, and I won. Enough to earn a few master points of my own. I couldn't tell you how many anymore, but somebody wrote them down.

Backgammon is nothing but odds, risk, and a board that changes with every roll. The kid who barely scraped a C in math was running live probability in his head against grown-ups. That year, the state tested me for minimum basic skills. The game rated me in master points. The thinking was never missing.

School was just looking for it in a room where it didn't show up.

Somewhere out there was a tournament director who bent a rule for a fourteen-year-old because he could see what the kid could do. This book is me returning the favor.

School never saw any of it. By the time I reached my senior year, they expected so little of me that when the graduation program was printed, my name wasn't on the list. They called it a mistake. My family and I knew exactly what it was. I graduated anyway. I was accepted into college on probation. Conditional, a single shot, prove it or you're done. They placed me in a mandatory basic skills class alongside my regular courses, and I knew the stakes. For the first time, the outcome was mine to decide. That's when I finally figured out how I actually learned. And once I did, everything changed. I went on to earn an MBA and two doctorates. Not because the struggle disappeared, but because I finally had tools that fit the way my mind worked.

So when I tell you that thinking differently isn't a defect, I'm not saying it from the outside. I'm saying it as the kid who failed three subjects in eighth grade, whose name they didn't bother to print at

graduation, and who walked into college on probation and decided he was going to make it anyway.

Who this book is for

This book is for the kid who has been told, directly or indirectly, that they think the wrong way.

The kid with learning differences. The kid on the spectrum. The kid who is quiet, intense, distracted, restless, stubborn, or “not school-smart.”

None of them needs to be fixed. This isn't a book about any one diagnosis, and the chapters never mention autism or dyslexia by name. That's not what it's for. It teaches you how to use the shape your mind already has, whether that mind is racing ahead, still catching up, or just built differently. Whether the reason has a name or not, the tool is the same.

And it is just as much for the kid who is hungry to know more. The kid who asks questions nobody else is asking. The kid who finishes early and gets bored because the answer came too fast. The kid who is quietly certain there must be another way to solve the problem, and isn't sure they're allowed to say so.

And the truth is, this book is for every kid in between, too, which is most of them. Because this was never really about who is “struggling” and who is “gifted.” Every single kid has a way their mind works best, a niche where things finally click. Most of them are just never shown how to find it. That is what this book is for. Whatever kind of thinker someone is (quick or slow, restless or careful, ahead in one thing and behind in another), there is a way that fits, and learning how to find it changes everything.

And if school comes easily right now, these tools are needed too. Maybe most of all. Because one day, something won't come easily. Some problems will be harder than anything you've faced yet, and nobody will hand out the answer. The kids who learn early how to think their way through hard things have a huge advantage when that day comes.

Why the format looks different

I shaped these pages with the same care I brought to the ideas. Larger type. Open lines. A left-aligned layout with room to breathe. A typeface chosen for readers who struggle, not the default nobody questions. None of it is decoration.

Reading is hard for some kids in a way that has nothing to do with how smart they are; the page itself gets in the way. I know because I watched it. One of my sons scored at the 1st percentile in visual memory (the bottom of the scale) and near the top in other areas. He didn't get past it by trying harder at a page that fought him. He found the ways that fit how his mind works.

There's art throughout, too, one never far from any page. Not decoration, and not a reward for finishing a hard paragraph. For a kid whose eyes need somewhere to land before the next stretch of words, a picture is a place to rest without leaving the page. The chapters are built the same way: short stretches with a marked break between them, so a reader who runs out of steam is never far from a place to stop and pick it up again. That's part of the design, just like the type and the spacing.

This book is built so the page doesn't fight the kid. And if this printed format still doesn't fit the way the readers' eyes and minds like to read, the digital edition gives you another way to adjust the page. The physical design is part of the promise of this book: the tools should fit the reader, not the other way around.

They didn't fit the mold either

Some of the world's most consequential thinkers did not fit the mold that school was built for.

Temple Grandin is autistic and thinks primarily in pictures. She used that way of thinking to design curved, calmer cattle-handling systems. Today, about half the cattle going through U.S. meat plants are handled in systems she designed.

Agatha Christie was, by her own account, a terrible speller. Writing was hard for her all her life, and her own family knew her, kindly, as "the slow one."

There was no name for it back then. She became the best-selling novelist of all time. The thing that fought her, putting words on paper, is the thing the whole world knows her for.

Steven Spielberg was rejected by USC's film school. He built his own path instead: short films, college at California State University, Long Beach, and a lucky break. Universal signed him to a television contract after seeing his work, and he left college to pursue his directing career. Decades later, long after *Jaws* and *E.T.* and *Jurassic Park*, he went back and finished his degree anyway, just because he'd told his own kids it mattered.

Albert Einstein. You've probably heard he failed math. He didn't. That story is a myth. He was an excellent student, especially in math and physics. He'd taught himself geometry and calculus years ahead of his class. What he couldn't stand was how school taught it: memorize, don't question, sit still. At fifteen, he left his school in Munich before finishing and later completed his secondary education at a school in Aarau, Switzerland, that let him question everything.

The point is not to become any of them. The point is simpler, and bigger: thinking differently is not a defect. It is a tool. One that anyone can learn to use to ask better questions, solve harder problems, and build something that matters.

Hand them the right tools

Not everyone finds their shape on their own. For years in the corporate world, I watched brilliant ideas die in conference rooms. Not because they were bad ideas, but because the people who had them had never been taught how to speak up, test them, or refine them out loud. The best thinkers often stayed quiet. And the loudest voices won.

This book is about giving kids the tools to avoid that trap: to ask better questions, share half-formed ideas without fear, treat being wrong as useful data, and keep iterating until something works. For kids who are still at an age when tools can become instincts.

The D-Squad is real. Four dogs, ours, asleep somewhere in the house as I write this. Sully notices what everyone else walks past. Then there's Baz (Taz is his real-life name, but it had to be changed for the book. Some say witness protection). He wonders out loud, without embarrassment. Dash checks instead of assuming. Phoebe asks the question nobody else thought to ask. I didn't invent the four moves. I live with them.

For years, when my boys were at their school, I'd bring lathes in and spend multiple days teaching the whole school (about seventy-five kids) to make their own pens. I brought a range of woods to choose from: striped, laminated blanks where the color ran all the way through, English bog oak thousands of years old, and more. Each kid picked their own. They chose their wood, their pen kit, and its style, and each of them got a box to keep it in.

Just because a kid has a learning difference doesn't mean they aren't entitled to the best. Or at least the

best I could give them. Every single child made a pen. If a kid could run the lathe, they ran it. If they couldn't, they sanded. If they couldn't sand, they polished. It didn't matter where they started. Every child walked away holding something they'd made, in a wood they'd chosen, knowing they made it.

That's the whole idea behind this book, in miniature: meet a kid where they are, hand them the right tools, treat them like they're worth it, and let them make something real.

Starting in the 2026-27 school year, I'm donating 2,000 paperbacks to schools, shelters, and homeschooling families across the greater Tampa–Sarasota area—30 to 50 per school: a classroom set, copies for the library, and a few for teachers to send home with kids who need a little extra TLC. Because everybody deserves the right tools.

Not done yet

Here is the most important thing I can tell you about using these tools.

Not succeeding is not the same as failing. Pivoting is not the same as failing. Changing your plan, your timing, or your route is not failing. Sometimes a good idea doesn't work. Not because it was a bad idea, but

because it wasn't the right idea yet, or the right moment. The only real failure is giving up. So when something doesn't work, you don't quit. You adjust, you change course, and you keep going.

That isn't just a slogan to me. It is exactly what my family is doing right now, today.

As I write this, my wife, our two sons, and I are all fighting recently diagnosed Lyme disease and the chronic co-infections that come with it. The kind of complex illness most people severely underestimate until they are living it. Between the four of us, the person with the fewest has four infections, and the person with the most has nine.

There is no shame in the struggle. We are in treatment, and we are still moving forward. We are still working, still building, and still showing up.

Whatever hits you, and something will, you keep going. You use the tools you have, you find the shape that fits, and you figure out the next move.

That's why I wrote this book. That's why the D-Squad exists. And that's why I'm not done yet.

Phil
Florida
2026

How This Book Works

The author's note is why this book exists. This page is what the book actually does.

This is not a textbook. There are no tests. There is no right answer at the end of any chapter.

What there is instead: the four dogs you're about to meet, and the two skills most grown-ups only ever get good at one of—how to think critically and how to think creatively. Not as separate subjects. In the same problem. Sully notices the real problem before solving it. Baz wonders wildly, without filtering too early. Dash tests which ideas hold up. Phoebe steps outside the problem when it needs a different question entirely. Each dog is best at one move, not locked out of the other three. In these stories Sully floats theories and Baz notices things too. The moves are for you to borrow, not personality types to be sorted into. Practice all four across eighteen chapters, and they stop being the dogs' moves and start being yours.

You can read the chapters in order or out of order. If a title catches your eye, start there. The early chapters work well in any sequence. The later ones build on each other more. If you feel like you've missed something, it's worth backing up a few chapters. And either way, this isn't a race. The dogs aren't going anywhere.

You're allowed to argue with this book. If something in here doesn't match your experience, push back. That's not a problem. That's exactly the skill the book is trying to build.

Near the end of each chapter there's a dare from one of the dogs. One small thing to practice. The name on the box changes every chapter (Beat Baz, Pizza vs. Tacos), but the (Try This) tag beside it never does, so the boxes stay easy to find. Most take five minutes. No special supplies needed. For some, you'll want a pen and paper. Most you can do by yourself. Skip them if you want. Come back to them later if you want more.

Some chapters have a box called Dash Checked It. It contains research that supports the chapter's teaching. Those are for readers who want to know the why, not just the what. This is optional.

The little pictures throughout the book are visual cues. They help you see what's coming, find your place again, or know what kind of section you've just landed in without reading a word. And if you're a page flipper—plenty of good readers are—they'll help you know where you've landed.

A pencil marks a dare; the dares change names from chapter to chapter, but the pencil doesn't.

A magnifying glass marks Dash Checked It so you can find those boxes, or skip them, without reading a word.

A bone-shaped signpost means the story is picking back up, and the words on it tell you where you are.

An evidence tag means the case is back. And the clues so far are written right on it, so you're always caught up.

A tinfoil hat means Baz has a theory. Brace yourself.

Paw prints just mean the scene is changing.

And at the end of the Introduction and every even-numbered chapter there is a box called THE ONGOING MYSTERY. Something is going on with Sully. Those boxes are me thinking it through, a little

at a time, in order. They are the one part of this book that does not work out of order.

The back of the book is worth knowing about too. Here's what's waiting there: Discussion Questions for every chapter, made for conversation, not quizzes. They work with a friend, a family, a class, or just you. And a Glossary that defines every thinking word from the chapters in plain language.

And if a grown-up is reading over your shoulder right now. Good. Grown-ups: you can read along or hand it over. The book is written directly to the reader and doesn't need a guide. But the chapters are short, the dares work for two people as well as one, and though it's written for readers eight to twelve, most of what's in here is worth knowing at any age. (Teachers and homeschoolers: a Standards Alignment appendix in the back maps the book to Common Core ELA, NGSS, C3, ISTE, and AASL standards.)

A note on ideas that come back—Some ideas in this book show up more than once. That's on purpose. You may meet a thinking move first in a story, then in an explanation, then in a dare, then in THE ONGOING MYSTERY. Each return gives you another way to understand it and practice using it.

A note on what's real—This is a hybrid of nonfiction and fiction. These dogs are real; they have simply learned to talk. Their tallest tales are make-believe (there is no smaller, secret dog living in the wall). But the great thinkers, the experiments, and the ways of thinking in these pages are all true. And you'll find the proof in the back of the book.

A note on who's talking—Dash narrates this book.

The only thing you need to bring is a willingness to be wrong.

That's it. That's the whole membership requirement.

Introduction

The Two Thinking Muscles

“Okay. I’ve got this.” Baz steps forward. “I’m going to explain the whole book.”

“Baz,” Dash says.

“It’s four dogs,” Baz says. “We each do a thing. I do the wondering. That’s the good one. Sully does the noticing. Dash does the—wait, do I explain Dash, or does Dash explain Dash? Because Dash is better at explaining, so maybe Dash should—”

“Baz,” Dash says.

“I’m getting there. So there’s four of us, and we each do a thing, and the thing is—” Baz stops. His tongue is out of his mouth, the way it is most of the time. He

is thinking very hard. “The thing is, when you put the four things together, you can solve anything. Or build anything. Both. That’s the book.”

A pause.

“That’s actually pretty good,” Baz says, surprised.

“That was good. It’s also about a tenth of it,” Dash says.

“...oh.” Baz looks at the cover to see where his name is. He looks back at Dash. “It’s a big book, huh?”

“It is,” Dash says.

“You should probably take it from here,” Baz says.

“I’ll take it from here,” Dash says.

“I’ll be around for the wondering parts,” Baz says, brightening. “Those are mine.” He pads off to find something to wonder about. He finds it almost immediately. It is a leaf. A very suspicious leaf. Probably plotting something. Leaves do that when you’re not looking.



Hi. I’m Dash. I’m the one telling you this whole book. Every page from here to the last find, that’s me. (The

paperwork in the very back—the humans handled that. They like paperwork.)

A lot of the time I'll tell you when it's me talking. When I don't, and nobody else's name is there, it's still me.

Here's what Baz was trying to say, and he wasn't wrong; he just couldn't hold all of it at once.

There are two kinds of thinking, and almost nobody is good at both.

The first kind is figuring out what's already true. Something happened. What caused it? What actually explains it? This kind of thinking narrows down: you take a pile of maybes and work out which one survives. This one has a name: **critical thinking**.

The second kind is figuring out what *could* be. What could we make? What hasn't anyone tried? This kind *opens outward*: you take one problem and spin out a whole list of possibilities before you judge any of them. This one has a name too: **creative thinking**.

School hands you a lot of the first kind's answers. The tested, settled ones. That answer-finding muscle gets less practice, mostly because there's only so much time in a day. The second kind, school mostly assumes you already have. And right around your

age, it starts going quiet, because everything begins rewarding the *correct* answer instead of the *interesting* one. Left alone long enough, the interesting-answer muscle gets so quiet you can't find it when you need it.

You're reading this in the narrow window right before that happens. That's why we caught you when we did.



Let me show you the four of us actually working, so you can see the thing rather than just hear about it.

Last week, the water in our bowl started dropping faster than usual. Every day. Full in the morning, noticeably lower by noon.

Sully noticed first. That's his job. He catches the thing nobody else caught. "Somebody's drinking our water," he announced. "I have a suspect." (He did not have a suspect. He had a feeling. Sully usually has a feeling before he has a fact, and sometimes instead of one. Keep an eye on Sully, actually. Of the four of us, he's the one this book changes the most. He doesn't know that yet.)

Then Baz wondered loudly, and more than once, because he can never stop at one. “Maybe the floor is thirsty. Or maybe the water is sneaking out at night to get away from us. Or maybe there’s a smaller, secret dog. Or a very polite raccoon with a tiny umbrella.” None of these was right. That’s normal. Most of Baz’s ideas are wrong. The point is he gets all of them on the table, and sometimes the tenth one isn’t wrong.

Then I tested. I didn’t argue about whose theory was best—I went and looked. I sat by the bowl from morning to noon and watched—no secret dog. What actually happened: the morning sun came straight through the window and onto the bowl, and the water dropped fastest in exactly the hours the sun was on it. Sully’s “suspect” was the sun.

And then Phoebe (who hadn’t said anything the whole time, because she mostly doesn’t) looked over from the windowsill and said:

“Move the bowl.”

Nobody had thought of that. We’d all been busy solving *who’s drinking the water*. Phoebe wasn’t solving that question. She stepped outside it and asked a better one: *Does the bowl have to sit in the*

sun at all? It didn't. We moved it ten feet. Problem gone.



That's the whole book, right there.

Notice what's actually happening (that's Sully).

Wonder wildly, without filtering (that's Baz). **Test** your ideas against the real world instead of arguing in your head (that's me). And every so often, **Zoom Out**—stop solving the problem long enough to ask whether it's even the right problem (that's Phoebe).

Notice → Wonder → Test, with Phoebe stepping outside whenever the question needs to change.

You'll spend a few chapters on each one. By the end, all four of us live in your head.



Baz wants it to be four steps.

"Notice, Wonder, Test, and then *me*," Baz says. "I'm the fourth step. What's my step called?"

"Wonder," I say. "You're step two. That's your step."

"I want the outside one. Like Phoebe's," Baz says.

“Phoebe’s not *in* the line. She stands outside the line and looks at the whole thing.”

Baz considers this. “So she’s the most important one.”

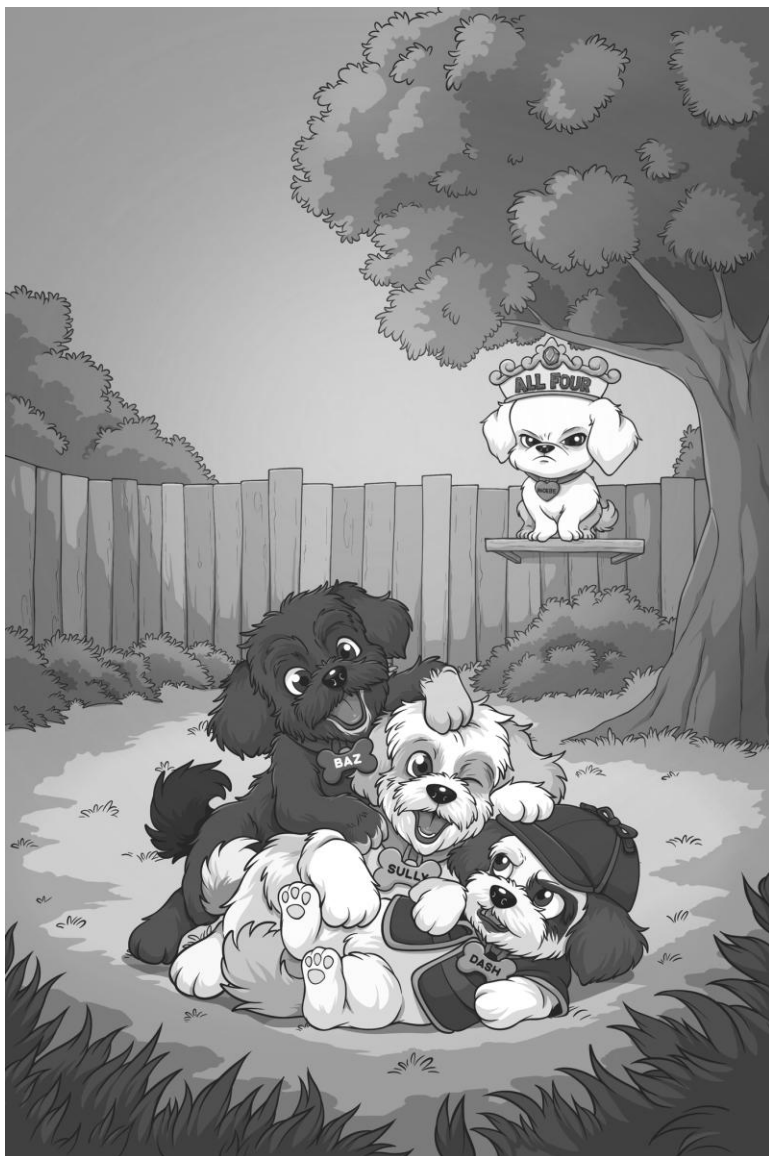
“...sort of.”

“And I’m one of the three regular ones,” Baz says.

“You’re the best of the three regular ones,” I tell Baz, because it’s true and because he needs to hear it before the next chapter.

Baz brightens. “Then we should have a name. A team like this needs a name.” He thinks for exactly one second. “The D-Squad.”

Introduction



It's on the cover. I know. He got there eventually.

“Only one of us starts with D.”

Baz doesn't hesitate. "The D is for the energy." He has already moved on. "I'm going to need that in writing."

"It's not that kind of thing."

"Everything's that kind of thing if you write it down," Baz says.



Here's the one thing this book believes, underneath everything else:

Thinking doesn't have to happen in your head alone. A lot of the time, it's a team sport.

A lot of people lose at it for a reason that has nothing to do with being smart. They have the idea. The good one. The one that turns out to be right. And they don't say it. They sit on it because they're afraid of how it'll sound. The hand goes halfway up and comes back down.

Started to say something, then swallowed it because you weren't sure. If you've ever done that, this book is especially for you. That five-second window, where the idea was right there and you let it go, is a lot of what this book is about.

Baz never does that. Not once. He throws his worst idea out with the same cheerful confidence as his best one, because the best one is sometimes hiding *inside* the worst one. And you can't get to the tenth idea without saying the first nine out loud.

Most of the time, you won't have three other dogs with you. You'll have a room, a problem, and yourself. So you'll have to be all four of us at once.

That's the skill. Eighteen chapters and a case at the end, each one teaching you a piece of it.

Let's go.

— Dash

ONE LAST THING

You don't have to read these chapters in order. The early ones stand on their own, so jump around, skip ahead, start wherever looks good. The later ones lean on each other a little. If one feels like it's assuming something you missed, back up a few chapters. It'll be there. The exception is THE ONGOING MYSTERY boxes: those go in order.

You'll also notice short bits about a mystery with Sully at the ends of the Introduction and the even-

Introduction

numbered chapters. They run in order. If you want to know what's going on with Sully, read them as you go. Either way, this book is yours to read however you want.



“Most people are stuck. You don’t have to be.” — Phoebe

THE ONGOING MYSTERY

Sully collects things. Rocks, feathers, a bottlecap he’s proud of. When he finds something, he carries it over and shows us. Every time. A find isn’t a find to Sully until somebody’s seen it.

Introduction

There's a spot by the fence where the collection lives.
Lately it's stopped growing.

I've started watching it. I'm keeping a file. I don't
know yet what I'm watching for.

— Dash

PART ONE

NOTICE



The Right Problem

The first move is noticing the right thing. Sully notices something and calls it a suspect. But noticing it and knowing it aren't the same move. Remember the water? He had a feeling before he had a fact. The next four chapters are about the difference between the first thing you notice and the right one.

Chapter 1

The Problem You Have Isn't the Problem You Think



Sully was certain squirrels were raiding the bird feeder.

The case was closed. He told me. He told Baz. He told Phoebe, who didn't look up.

He had a plan. The plan involved strategically barking at the back fence three times a day, for as long as it took. Which, knowing Sully, was basically forever.

Then I asked one quiet question.

“Did you actually see a squirrel take any?”

Sully paused.

He had not.

He had seen squirrels. He had seen an empty feeder. He had put those two things next to each other and decided one had caused the other. But he had not, technically, watched a squirrel do it. And the case that had felt so solid a minute ago now felt like smoke.

Sully sat down.

What still bothers me, looking back, is the nose. Sully had a good one. If squirrels had been working that feeder, the whole base of the tree would have smelled like them. That sharp, nutty, slept-here smell squirrels leave on everything. He never checked. His eyes had closed the case before his nose got a vote.



Here's something that happens to all of us, every day, more often than we realize.

The problem you *think* you have is usually not the problem you actually have.

You notice something is wrong. You name what's wrong. You start solving the named thing. And the named thing turns out to be a different thing. Or two things, or part of a thing, or the visible piece of a problem whose roots are somewhere else entirely.

This is fine. This happens. Naming the wrong problem first is not the mistake.

The mistake is solving the wrong problem before you check whether it's the real one.



Here's a tiny example. Not squirrels.

Imagine you walk into the kitchen and the cookies are gone.

Your first thought is somebody ate them. Maybe a sibling. Maybe a friend who came over. Maybe a parent got into them again. You're already heading down the hallway to find out who.

Stop. Look at the shelf.

The shelf is slightly slanted. There's a gap behind it where things have slid out of sight. The cookies are not eaten. The cookies are behind the shelf, lying in the dust against the wall.

The problem you thought you had: somebody ate the cookies.

The problem you actually had: the shelf is slanted, and your stuff keeps falling behind it.

If you'd solved the first problem (confronted a sibling, written a sign, hidden the cookies), the shelf would still be slanted. Tomorrow it'd be the crackers. Then the cereal. Then your homework.

"I like the first problem," Baz says. "It's friendlier."

"It's wrong," I say.

"Friendly, though," Baz says.

Sully's squirrels worked the same way. He had named the disappearance. He had named the suspect. He had been about to start barking. The actual cause was somewhere he hadn't looked.

Same problem. Different stuff disappearing.



Here's another one. A different shape.

The floor in the house keeps getting dirty. Not just a little. Really dirty. You mop it. Two days later, it's dirty again. You mop it again. It happens again.

The problem you think you have is that you need a better mop. Or to mop more often. Or harder. Maybe a special floor cleaner. Maybe a new mop entirely. The whole mopping operation needs an upgrade.

The problem you actually have: the floor shouldn't be getting that dirty in the first place. Something is happening that's making it dirty faster than it should be.

"The problem is almost never the first problem," Sully says, to nobody in particular. He sounds like a dog who learned this the hard way.

If you only solve the mopping problem, you're going to be mopping for the rest of your life.

If you solve the actual problem (figure out why dirt is arriving in the first place), you might only have to mop normally, like a person who lives in a normal house.

Two different ways the wrong problem hides.

The Problem You Have Isn't the Problem You Think

In the cookies example, the wrong problem hides behind a more interesting story. (Somebody ate them. Mystery. Crime.) The real problem is boring. (The shelf is slanted.) Boring problems are easier to miss because nobody wants to look at them.

In the floor example, the wrong problem hides behind a more obvious next step. Floors get dirty, you mop floors, that's what you do. You don't pause to ask why the floor's getting that dirty. The next step is so obvious that you skip past the question.

And when you finally ask it (why does the mud keep arriving?), the answer's been by the door the whole time. It rides in on paws. Put a mat where the paws land, and the mud never reaches the floor.



“What if the bird feeder is sad?” Baz says.

“Baz.”

“It’s a lonely shape. Hanging there. Just dangling there like it got dumped,” Baz says.

“The bird feeder is not sad.”

Baz considers this. “How would you know?”

I watch Baz watch the bird feeder. Baz nods to himself, working it out.

“My second theory is that it’s installed upside down,” Baz says.

“It is not installed upside down.”

“You haven’t checked from below.” Baz tilts his head, then his whole body, until he is looking at the feeder sideways. “From here it could be.”

“You’re sideways, Baz.”

“We’re both sideways now,” Baz says. “So we can’t be sure.”



So here’s the one thing this chapter is asking you to learn.

When you notice a problem, name what you think the problem is.

Then, before you start solving it, ask one question.

What if this isn’t the real problem?

That’s it. That’s the sentence.

You don't have to know the real answer yet. You just have to crack open the possibility that the obvious answer is the surface of something else.

It's easy to skip this question. You go straight from "I see a problem" to "I'm going to fix this problem." You use up energy fixing the wrong thing. The original thing comes back because the actual cause is still in place. Then you fix it again. Same result.

You can build a one-second habit. Notice a problem. Ask if it's the real one. Sometimes the answer is yes. Sometimes a cookie really did just get eaten. But often the answer is no. And the no is where the actual thinking starts.



You might be wondering: how do you tell the surface problem from the real one?

Three clues.

One. It comes back. The surface problem keeps coming back. You solve it, it returns. You solve it again, and it returns again. That's a sign you're fixing a symptom, not a cause.

Two. It came too fast. The surface problem has a fast solution. Suspiciously fast. The solution arrived at

the same time the problem did. You saw it, and you knew what to do, instantly. Real problems usually take a beat to understand before solutions show up. If your solution arrived before your understanding did, you might not be solving what you think you're solving.

Three. It's too good a story. The surface problem is more interesting than the real one. The real problem is usually boring. Slanted shelves. Worn-out hinges. A door left open. A small thing that doesn't deserve a story. The interesting problem (the mystery, the crime, the dramatic thing) is often the wrapper, not the contents.

Boring is usually correct. Interesting is usually a clue that you're looking at the wrong thing.



“What if the squirrels are eating the food from inside the feeder?” Baz says.

“That’s the original theory, Baz,” I say. “That’s what we just stopped believing.”

“What if I’m believing it again. Fresh,” Baz says.

DASH CHECKED IT



The science behind the story. Optional.

Researchers who study how people solve problems ran an experiment that became famous.

They gave volunteers a candle, a box of thumbtacks, and a book of matches. Then they asked: attach the candle to the wall so it doesn't drip wax on the floor.

Most people tried to tack the candle directly to the wall. The tacks were too short. Then they tried to melt wax onto the wall and stick the candle there. The wax wouldn't hold.

Most people missed the actual solution. The actual solution was sitting right in front of them.

The box. Empty out the tacks. Tack the empty box to the wall. Set the candle inside the box. Done.

Why did people miss it? They had named the box "the thing the tacks come in." Once it was named that, it couldn't be anything else. The box stopped being something they could see; it became part of the background.

Then the researchers ran the experiment again. Same items. But this time, the tacks were laid out next to the box instead of inside it. Now the box was just a box.

Many more people solved it.

The only thing that had changed was how it was presented.

When you can't solve a problem, sometimes the problem isn't actually hard. Sometimes you've named something in a way that's hiding what it actually is. This is why "it's broken" is usually the wrong way to describe it. The app won't load, the controller won't connect. And the moment you name it "broken," you stop looking, because broken things are someone else's job to fix. But it's rarely broken: it's not charged, it's the wrong cable, there's an update waiting. Every one is fixable in seconds, and every one is invisible as long as the thing is filed under "broken."

WATCH IT LIKE SULLY (TRY THIS)



Pick one thing that's been bothering you.

The Problem You Have Isn't the Problem You Think

It doesn't have to be big. The drawer that sticks. The cousin you keep arguing with. The way your room never stays clean. Something small that comes back.

Write down what you think the problem is. One sentence.

Then ask: *what if that isn't the real problem?*

Sit with the question for a minute. Don't force an answer. Just see what shows up.

The drawer that sticks. Maybe it's not the drawer. Maybe the dresser shifted when someone moved it while painting. The cousin you keep arguing with. Maybe it's not the cousin. Maybe it's always the same topic that sets them off, and the rest of the time they are fine. The room that never stays clean. Maybe it's not how messy you are. Maybe there are no places to put the stuff you have, and the floor is the only available shelf.

The real problem might be sitting right next to the named one, slightly out of focus.

You don't have to look hard. You just have to look. Bonus round, if somebody's around: read them your one sentence (just the problem, nothing else) and ask what they think is really going on. They're seeing it fresh, so they might spot what you're too close to see.

PART ONE—NOTICE

If they name a different problem than you did, that's worth chasing. It doesn't mean they're right. It means there's something there to look at.



Sully went back out to the yard.

The bird feeder was where the bird feeder had always been. It looked empty, the way it had looked empty three mornings running.

He sat down a few feet from it.

“What if the squirrels aren’t the problem?” he said, to nobody in particular.

Then he watched.

He didn’t bark. He didn’t pace. For twenty minutes, nothing happened.

Then a small finch landed on the feeder, hopped to the lip, dipped its head inside, came out with one of the last seeds, and flew away.

Sully watched the spot where the seed had come from.

A piece of the feeder lid was loose. Not all the way off. Just lifted, where it had worked itself loose over time. Every time the feeder swung (wind, a bird landing, a bird taking off), seeds spilled out through the gap and scattered across the grass underneath. The lid had been like that for weeks. Sully had not noticed, because Sully had been watching for squirrels.

It was never the squirrels.

The feeder wasn't even broken. The lid had just worked itself loose.

The seeds had been slipping out through that gap the whole time, which was why it was always empty by morning. The birds pecking at the grass weren't emptying the feeder; they were just cleaning up what had already fallen out of it.

Sully sat there for a while.

He had been certain. He had been confident. He had been ready to bark.

He had been wrong about which problem he was solving.

He got up. He walked over to the feeder. He took the lid in his teeth and pressed it down until it clicked.



“You weren’t looking at the right thing.” —

Phoebe

THE EXCERPT ENDS HERE

That was Chapter 1. The full book has seventeen more, plus the Last Chapter, where all four of us finally run one problem together. And THE ONGOING MYSTERY—you've read the first installment. Something is going on with Sully. The rest of the pieces are in the book, in order, where they belong.

Everything after this page comes from the back of the book: the Four-Dog Field Guide, the Discussion Questions for what you just read, the complete Glossary, the research behind these pages, and the Standards Alignment for teachers and homeschoolers.

The complete book: www.philweiss.com/order

Free printables and more excerpts:

www.philweiss.com/downloads

— Dash

The Four-Dog Field Guide

Four dogs. Four jobs. One head—yours.



When you're stuck on something (a problem to solve, or a thing to make), run through the four of us. Each one asks a different question. You just need all four.

Each of us is best at one of these. But none of us is banned from the others, and neither are you.

SULLY—the Noticer

“What’s actually happening?”

Not the first thing. The real thing. Look longer than feels necessary, and look at what everyone else has stopped seeing.

BAZ—the Wonderer

“What if...?”

Out loud, and more than once. Some of the ideas should be bad. The bad ones make room for the good ones. You can’t get to the tenth idea without saying the first nine.

DASH—the Tester

“Does it hold up when I check?”

Don’t decide by thinking harder. Go and look. The answer is almost always more available than you think.

PHOEBE—the Zoom-Out

“Are we solving the right problem?”

She's not a step in the line. She stands outside it. At any point, she asks the question nobody asked. And turns the whole thing in a new direction.

Notice. Wonder. Test. And every so often, step outside and check the question.

That's the D-Squad. The D is for the energy.

Discussion Questions

These questions are thinking questions, not retrieval questions. None of them have a right answer. They're designed for classroom discussion, family conversation, homeschool use, or a reader working through the book alone. The goal isn't to check comprehension. It's to practice the skill each chapter teaches.

You don't need to use all the questions. Pick the one or two that feel most alive for the group in front of you.

Introduction—The Two Thinking Muscles

The case for learning both kinds of thinking at the same time

1. Think of something you're genuinely good at. Did you get good at it by figuring things out (critical) or by making things up (creative), or both? What does that tell you about how you think?

Discussion Questions

2. The Introduction says most people are good at one kind of thinking and not the other. Which one do you think you lean toward? How do you know?
3. The book's thesis is that real thinking is a team sport. Even when you're alone. What does it mean to have a team inside your head? Does that idea make sense to you, or does it seem strange?
4. Have you ever lowered your hand in class, or stayed quiet somewhere, because you weren't sure enough? What would have happened if you'd said the thing anyway?

Chapter 1—The Problem You Have Isn't the Problem You Think

Separating the surface problem from the real one

1. Think of a problem you've tried to fix more than once, and it kept coming back. Looking back, do you think you were solving the real problem or a symptom of it?
2. The chapter describes two ways a wrong problem hides: behind a more interesting

Discussion Questions

story, or behind an obvious next step. Which of those traps do you fall into more often?

3. The three clues are: it comes back, it came too fast, it's too good a story. Can you think of a time when one of those clues was there but you missed it?
4. Is there a problem in your life right now that might not be the real problem? What would you find if you asked: "What if this isn't the real problem?"

Glossary

Short definitions of every named thinking concept in the chapters. When a term has a kid-language rename (like confirmation bias becoming favorite-team brain), both versions are listed. Cross-references throughout.

A

Absolute words—Words that signal total certainty: “Obviously,” “definitely,” “everyone knows,” “trust me,” “100 percent.” These sound stronger than hedge words. They’re often weaker. The person using them probably hasn’t found the complications yet. See also: Hedge words.

B

Brainstorming—Real brainstorming is not the careful sharing of good ideas. It’s throwing out every idea (good, bad, weird, impossible) as fast as possible without filtering. The point is quantity first. You look for the good ones after the list is done. See also: Idea collection.

C

Chain of repetition—How beliefs travel without anyone checking them. Somebody says a thing. Somebody else hears and repeats it. A third person hears the second and repeats it. By the time a hundred people are saying it, nobody remembers that nobody ever checked. See also: The popularity trap, Telephone.

Combination—A creative move where you join two existing things together to make something new. The pencil with an eraser on top is a combination. Neither piece was invented—they were just connected for the first time. See also: Expansion, The seed.

Confirmation bias (favorite-team brain)—The way your brain notices things that agree with what you already think and misses things that don't. When something disagrees and is too close to miss, your brain finds a reason it doesn't count. It happens automatically. Your brain is rooting for whatever team it picked first. The book calls it favorite-team brain. See also: Favorite-team brain.

Convergent thinking—The kind of thinking that narrows down to one answer. You start with many

possibilities and work out which one is right. Critical thinking runs on convergent thinking. See also: Critical thinking, Divergent thinking.

Creative thinking—The kind of thinking that opens outward. You start with a situation and generate possibilities. You ask what could be made, changed, or tried that hasn't been tried yet. See also: Critical thinking, The two thinking muscles.

Critical mode and creative mode—The two ways the NOTICE step can run. In critical mode you look for what's wrong and what caused it. In creative mode you look for what could be different or better. The Last Chapter runs NOTICE twice, once each way, on the same situation. See also: NOTICE, Critical thinking, Creative thinking.

Critical thinking—The kind of thinking that narrows down. You start with a situation and work out what's true, what caused it, and what the right answer is. See also: Creative thinking, The two thinking muscles.

D

The D-Squad framework—The thinking process the book teaches: NOTICE the real problem → WONDER what could explain or solve it → TEST

which ideas hold up. Phoebe's ZOOM OUT move sits outside the line and can happen at any point. It means stepping back to ask whether the right problem is being solved at all. The same framework works on both critical and creative problems. See also: NOTICE, WONDER, TEST, ZOOM OUT.

DASH CHECKED IT—The research sidebar in selected chapters. A short box explaining the science behind the chapter's teaching. Real experiments, real history, and once in a while a real question nobody has answered yet. For readers who want to know the why, not just the what. Optional.

Divergent thinking—The kind of thinking that generates possibilities. You start with one thing and branch outward into options. Creative thinking runs on divergent thinking. See also: Creative thinking, Convergent thinking.

E

Earned confidence—The kind of confidence that comes from actually doing the work. A doctor's certainty about a diagnosis is earned. Confidence about something you've never checked is not. The difference is whether the person has done the looking.

Evidence update—Changing your mind because you saw something new. A measurement, a test result, a fact you couldn't explain away. The strong move. A reasonable answer, replaced by a better one. Different from a pressure update, which is changing what you say because someone pushed you. See also: Pressure update.

Expansion—A creative move where you add something to what already works. A button added to a controller. The original thing still works—you just gave it one more capability. See also: Combination, The seed.

F

Favorite-team brain—The book's kid-language name for confirmation bias. Your brain roots for whatever conclusion it picked first, noticing what agrees with it and missing what doesn't. Both the attention and the memory are working for the same team. See also: Confirmation bias.

The flinch—The small feeling of embarrassment that arrives when you're wrong or when you say something you're not sure of. The book argues the flinch is taught, not innate, and that you can decide not to inherit it.

The fog—What you hit when you trace a claim back and the trail runs out. Nobody can say where it actually came from. In the book, Sully repeats something he heard from a dog at the park. And when he's asked how that dog knew, the trail stops there. When the source is fog, the claim hasn't really been checked by anyone. See also: Source, Chain of repetition.

The fold—Saying what the room is saying instead of what you saw. Not lying, exactly, and not changing your mind. The belief stays put; only the sentence goes with the crowd. The line experiment in Chapter 14 caught people doing it and found the cure: one other honest voice. See also: The popularity trap, Pressure update.

The four moves that wreck a disagreement—The four habits that turn a normal disagreement into a fight: making it about the person instead of the idea; contempt (eye-rolls, sarcasm, “I am above you”); defending yourself before listening; and shutting down into silence. The book turns these toward friendships and siblings as warning signs, not a crystal ball. See also: Right-shape phrases, Wrong-shape phrases.

The four-word question—“How do you know?” Dash’s tool for checking a claim, and the question Chapter 10 is built on. Ask it about anything anybody tells you, including things you tell yourself. Smaller versions count—“Who’s they?” is the same question in a smaller coat. See also: Source, The fog.

H

The half-formed idea—An idea you haven’t finished thinking yet. Saying one out loud before it’s polished is what Chapter 7 asks you to practice, because a half-formed idea in the room is worth more than a finished one in your head. See also: Wild idea, The seed.

Hedge words—Small words that signal someone has thought carefully about something: “I think,” “probably,” “maybe,” “it depends,” “I’m not totally sure.” These are accuracy words, not weakness words. The person using them found some uncertainty and is telling you about it. They tell you how sure someone is. Not whether they’re right. See also: Absolute words.

I

Idea collection—What most schools call brainstorming but isn’t. A few careful ideas shared,

written on a board, agreed upon, and moved on from. Real brainstorming is faster, messier, and unfiltered. The careful ideas are the ones everybody else already thought of. See also: Brainstorming.

L

Listening-mind—The part of your thinking that notices things without arguing or planning. It often notices what the talking-mind misses. What it notices still needs checking. When the talking-mind runs too loud, the listening-mind can't get through. See also: Talking-mind.

N

Not knowing at all—When nobody knows the answer, not because you're not smart enough, but because the question is genuinely unsolved for everyone right now. The most interesting place to be. See also: Not knowing yet, The stilt-owl.

Not knowing yet—When the answer exists but you haven't found it. You haven't looked in the right place, had the right conversation, or waited long enough. Most everyday problems are this kind. See also: Not knowing at all.

NOTICE—The first step in the D-Squad framework. Sully's step. Identifying what's actually wrong before

starting to solve it. The skill is separating the surface problem from the real one. NOTICE can run in critical mode or creative mode. See also: The D-Squad framework, Surface problem, Critical mode and creative mode.

O

One beat of pause—The move Chapter 4 asks you to learn: not ten minutes, not even one whole minute. Just enough time to notice you haven't actually checked what the problem is yet. The feeling of urgency makes you skip it. One beat is often enough to catch a guess before you act on it. See also: Surface problem.

THE ONGOING MYSTERY—The story running underneath the book. A box at the end of the Introduction and every even-numbered chapter, where Dash works out what's going on with Sully a little at a time. **The boxes go in order.** They're the one part of the book that doesn't work out of order.

P

The popularity trap—What a roomful of agreement does to your mouth. You can know the answer, have seen it yourself, and still say what everyone else is saying, because agreeing is easier

than being the only one. The trap isn't in what you believe. It's in what you say out loud. See also: The fold, Wide agreement.

Pressure update—Changing what you say because someone pushed you, not because you saw new evidence. It looks like changing your mind from the outside. It usually doesn't stick. See also: Evidence update.

Q

The question cage—The way the shape of your question limits the answers you can find. “How do I get under the couch?” can only produce answers about getting under the couch. When your answers aren't working, the cage might be the problem. See also: Reframing.

R

Reframing—Replacing a question that isn't working with a different question about the same situation. The goal is to escape the question cage. Reframing is the heart of the ZOOM OUT move. See also: The question cage, ZOOM OUT.

Right-shape phrases—Phrases that keep a disagreement focused on the idea rather than the

person: “I see it differently because—” “What if we tried the opposite?” “That works, except in this case.” See also: Wrong-shape phrases.

S

The seed—The real part hiding inside a wrong idea. Most ideas in a brainstorm have no seed. A few have something inside them (a mechanism, a direction, a piece) that could become real if you changed the parts that don’t work. See also: Brainstorming, Wild idea.

Source—Where information comes from. A source can be solid (a scientist who studied it, a doctor who treated it) or it can be fog: somebody told somebody who told somebody, and nobody ever checked. See also: Chain of repetition, The fog, Telephone.

The stilt-owl—An invented answer created to fill a not-knowing gap. Named for an animal Baz made up because not knowing what a night sound was had been bothering him. The stilt-owl felt like an answer. It wasn’t one. The urge to invent a stilt-owl is universal. See also: Not knowing at all.

Surface problem—The first problem you notice. Often not the real problem. The real problem is often something quieter hiding underneath it. Also called a

symptom: the thing you can see, caused by something you can't. See also: NOTICE.

T

Talking-mind—The part of your thinking that's always busy. Narrating, defending, planning, worrying. Loud even when it's silent. When the talking-mind runs at full volume, the listening-mind can't get through. See also: Listening-mind.

Telephone—The game where a sentence passes through ten people and arrives completely changed at the end. Used in the book as a model for how information degrades as it's repeated. Not through lying, but through normal, imperfect human passing. See also: Chain of repetition, Source.

TEST—The third step in the D-Squad framework. Dash's step. Taking the ideas from WONDER and figuring out which ones hold up, which explanation fits the evidence, which solution would actually work. See also: The D-Squad framework.

Trained noticer—Someone who notices on purpose instead of by accident. Detectives, doctors, scientists, artists, and inventors all do it. Five different jobs, one shared skill. Their eyes aren't better; they've practiced asking what's here that

shouldn't be, and what should be here that isn't. See also: NOTICE.

Try This—The practice exercise near the end of each chapter. One small thing to do. Every box wears its own name (Beat Baz, Count the Definitelys), with (Try This) tagged after it. Most take five minutes. No special supplies needed; for some, you'll want a pen and paper. Most you can do by yourself. All optional.

The two thinking muscles—The book's name for the pair of skills it teaches together: critical thinking (working out what's true) and creative thinking (generating what could be). Most people train one and neglect the other; the book's bet is that you build both at once. See also: Critical thinking, Creative thinking.

U

Using all four together—Not a separate step. What you get when NOTICE, WONDER, TEST, and ZOOM OUT all work together on the same problem. As Baz puts it, when you put the moves together, you can solve anything or build anything. The Last Chapter demonstrates it. (Chapter 18 adds the honest footnote: some questions stay open. The

moves still tell you which kind you're holding.) See also: The D-Squad framework, ZOOM OUT.

W

Wide agreement—When a lot of people are all saying the same thing. It isn't evidence, and it can't make a claim true. But it can press on your mouth even when it hasn't changed your mind. A fact about the room, not about the thing. See also: The popularity trap, The fold.

Wild idea—An idea that sounds wrong, goofy, or impossible on first hearing. Often the source of the real idea. The wild idea isn't a detour from thinking. It's what thinking looks like when it's working. See also: The seed, Wild-idea muscle.

Wild-idea muscle—The creative capacity to generate ideas past the point where they start sounding stupid. Most kids have it. Most adults have trained themselves out of it. The book argues it can be rebuilt by practicing going further down the list than feels comfortable. See also: Wild idea.

WONDER—The second step in the D-Squad framework. Baz's step. Generating possibilities before deciding which one is right. In critical mode: what could have caused this? In creative mode: what

could this become? See also: The D-Squad framework, Brainstorming, Wild idea.

Wrong-shape phrases—Phrases that turn a disagreement into a fight by making it personal. “That’s stupid.” “YOU don’t get it.” “Whatever.” Each one shifts the disagreement away from the idea and toward the person. See also: Right-shape phrases.

Z

ZOOM OUT—Phoebe’s move in the D-Squad framework. ZOOM OUT means stepping outside the problem entirely and asking whether the right problem is being solved at all. It is not a step in the line—it can happen at any point in the process. Phoebe sits apart from the other three exactly so she can do it. See also: The D-Squad framework, Reframing, Listening-mind.

The Evidence (Dash Checked It)

Dash did the checking. The humans wrote this part down.

Where These Ideas Came From

Every Dash Checked It box in this book is built on something real. Usually an experiment: something scientists really did, with real people, often a long time ago. Sometimes documented history. And in one chapter, three questions nobody on Earth has answered yet. This part tells you who did each one and where you can find it.

Two things are worth knowing before you dig in.

First, science is never finished. Some of these experiments have been done again and again and keep coming out the same way. Others turned out to be more complicated than scientists first thought. And when that happened, I've said so right here. That isn't science failing. That's science working.

Changing your mind when better evidence shows up is the whole point of this book.

Second, not every chapter is listed here—only the ones built on research worth pointing you to. So if you notice that some chapter numbers are missing, that’s why—those chapters tell other kinds of stories.

How to Read One of These Notes

A scientific reference looks like a secret code, but it’s easy once you know the parts:

Author’s last name, first initial. (Year it was published).

“Title of the study.” *Name of the journal, volume number*(issue number), page numbers.

So when you see Asch, S. E. (1956), that means a scientist named Solomon E. Asch published this study in 1956. If you ever want to find the real thing, a librarian or a teacher can help you track it down using exactly this information.

The Author’s Note • Four Real Thinkers

The four people in the Author’s Note are real, and so are the claims. Here’s the proof.

Temple Grandin is autistic, thinks in pictures, and used that way of thinking to design calmer, curved cattle-handling systems. The meat-plant figure

comes from her own books, talks, and official biography. She's careful about it, too: people say she designed half the cattle-handling systems in the country, and she says that isn't true. It's the cattle going through meat plants that make up the figure. Worth noticing that the scientist is the one insisting on the smaller, truer claim.

Grandin, T. (2006). *Thinking in Pictures: My Life with Autism* (expanded ed.). Vintage Books.

Agatha Christie tells it herself in her autobiography: the terrible spelling, the family reputation as “the slow one.” And Guinness World Records lists her as the best-selling fiction writer of all time.

Christie, A. (1977). *An Autobiography*. Collins.

Guinness World Records: Best-selling fiction writer of all time.

Steven Spielberg really was turned down by USC's film school. He studied at California State University, Long Beach instead, left when Universal signed him, and went back and finished that degree in 2002.

McBride, J. (2011). *Steven Spielberg: A Biography* (2nd ed.). University Press of Mississippi.

Albert Einstein really was an excellent student in math and physics (the “Einstein failed math” story is

a myth), and he really had taught himself geometry and calculus years ahead of his class. At fifteen, he left his school in Munich before finishing, exactly as the Note says. He finished later in Switzerland: first at a school in Aarau that encouraged him to question everything, then graduated from the Zurich Polytechnic in 1900.

Isaacson, W. (2007). *Einstein: His Life and Universe*. Simon & Schuster.

Sources, Chapter by Chapter

The Introduction • The Fourth-Grade Slump

The Introduction says the interesting-answer muscle starts going quiet right around a reader's age. That idea comes from research on what teachers and scientists call the fourth-grade slump. E. Paul Torrance, who built the most widely used creativity tests for children (you'll meet him again in the Chapter 3 note), tracked scores dipping right around fourth grade.

For the Record: The slump shows up in many studies. How universal it is, and what causes it, is still argued. The safe takeaway is the one the Introduction leans on: these are good years to practice the wondering muscle on purpose.

Torrance, E. P. (1968). "A Longitudinal Examination of the Fourth Grade Slump in Creativity." *Gifted Child Quarterly*, 12(4), 195–199.

Chapter 1 • The Candle and the Tack Box

The puzzle where a box of tacks has to become a shelf was invented by a scientist named Karl Duncker, who called the trap "functional fixedness"—seeing a thing only as the job it usually does. Years later, another scientist found something surprising: when he gave people an incentive to solve it faster, they did worse. Pressure made their thinking narrower, not sharper.

Duncker, K. (1945). "On Problem-Solving." *Psychological Monographs*, 58(5), i–113.

Glucksberg, S. (1962). "The Influence of Strength of Drive on Functional Fixedness and Perceptual Recognition." *Journal of Experimental Psychology*, 63(1), 36–41.

One Last Thing to Remember

Scientists are wrong sometimes. They run an experiment, get an answer, and then someone else tries it and gets something different. So they all keep digging. A few of the ideas in this book are still being argued about by very smart people right now, and I told you which ones on purpose.

A good thinker isn't someone who's always right.

A good thinker is someone who keeps checking.

Standards Alignment

This book supports skills reflected in the following widely used standards and frameworks for grades 3–6. A printable copy of this section is available for free at www.philweiss.com/downloads.

Common Core State Standards—ELA

Keyed to College and Career Readiness Anchor Standards (CCRA), which apply across all K–12 grade levels. Most state ELA standards remain based on these anchor standards, and states that use their own frameworks address closely parallel skills.

Reading Standards

Standard	Description	Primary Chapters
CCRA.R.1	Read closely to determine explicit meaning and make logical inferences; cite textual evidence to support conclusions.	Ch 10, 11, 12, 14
CCRA.R.2	Determine central ideas of a text and analyze their development; summarize key supporting details.	Intro, Ch 1, 5, The Last Chapter
CCRA.R.3	Analyze how and why individuals, events, or ideas develop and interact over the course of a text.	Ch 3, 9, 13, 16, The Ongoing Mystery, The Last Find
CCRA.R.4	Interpret words and phrases as used in a text; analyze how word choices shape meaning.	Ch 11, 12, 17, Glossary
CCRA.R.6	Assess how the point of view or purpose shapes the content and style of a text.	Intro, Ch 11, 16, The Ongoing Mystery
CCRA.R.8	Delineate and evaluate argument and specific claims in a text; assess relevance and sufficiency of evidence.	Ch 10, 11, 12, 13, 14
CCRA.R.9	Analyze how two or more texts address similar themes or topics; compare the approaches authors take.	Ch 10, 14, Dash Checked It boxes, The Evidence

Writing Standards

Standard	Description	Primary Chapters
CCRA.W.1	Write arguments to support claims, using valid reasoning and relevant, sufficient evidence.	Ch 11, 13, 14; My Case (teacher supplies the argument frame)
CCRA.W.7	Conduct short, focused research projects to build understanding of a subject.	Ch 1, 10, 13, Try This boxes
CCRA.W.8	Gather information from multiple print and digital sources; assess the credibility and accuracy of each source.	Ch 10, 11, 14, The Evidence

Speaking and Listening Standards

Standard	Description	Primary Chapters
CCRA.SL.1	Participate effectively in collaborative discussions; build on others' ideas and express own ideas clearly.	Ch 6, 7, 16, 17, Discussion Questions
CCRA.SL.3	Evaluate a speaker's point of view, reasoning, and use of evidence.	Ch 10, 12, 14
CCRA.SL.4	Present information and findings such that listeners can follow the line of reasoning.	Ch 10, 13, 17

Language Standards

Standard	Description	Primary Chapters
CCRA.L.3	Apply knowledge of language to understand how language functions in different contexts.	Ch 12, 17
CCRA.L.4	Determine or clarify the meaning of unknown words using context clues and reference materials.	Glossary; bolded terms throughout
CCRA.L.6	Acquire and use general academic and domain-specific vocabulary accurately.	Ch 3, 11, 13, Glossary

NGSS—Science and Engineering Practices

These cross-disciplinary practices apply across all NGSS performance expectations. (NGSS defines them for every grade band, with expectations set for grades 3–5 and 6–8; this book’s grades 3–6 range spans those two bands.) NGSS expects these practices to be developed through science content; the book supplies the thinking moves, and SEP.3 and SEP.4 apply when it is paired with a hands-on investigation.

Practice	Official Name	Primary Chapters
SEP.1	Asking Questions and Defining Problems	Ch 1, 4, 15, 18
SEP.3	Planning and Carrying Out Investigations	Ch 1, 2, 11, 13, My Case (paired with a hands-on investigation)
SEP.4	Analyzing and Interpreting Data	Ch 10, 11, 13, 14 (paired with a hands-on investigation)

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SEP.6	Constructing Explanations and Designing Solutions	Ch 1, 3, 6, 8, 9, The Last Chapter (the explanations practice; the book does not include engineering design)
SEP.7	Engaging in Argument from Evidence	Ch 11, 12, 13, 14, 17
SEP.8	Obtaining, Evaluating, and Communicating Information	Ch 10, 11, 12, 14

C3 Framework—Social Studies

From the College, Career, and Civic Life (C3) Framework for Social Studies State Standards (NCSS). These inquiry dimensions apply across all grade bands.

Dimension	Description	Primary Chapters
D1	Developing questions and planning inquiries: ask compelling and supporting questions that drive an investigation.	Ch 1, 4, 15, 18

Standards Alignment

D3	Evaluating sources and using evidence: gather relevant information, judge credibility, and build claims supported by evidence.	Ch 10, 11, 12, 13, 14
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ISTE Standards for Students

From the ISTE Standards for Students (International Society for Technology in Education). These standards apply across all grade levels. ISTE frames these competencies for technology-rich settings; this book builds the underlying thinking skills that students then apply in digital contexts.

Standard	Description	Primary Chapters
ISTE 1.3	Knowledge Constructor—evaluate the accuracy, perspective, and credibility of information.	Ch 10, 11, 12, 13, 14
ISTE 1.4	Innovative Designer—develop and test ideas, work with open-ended problems, tolerate ambiguity.	Ch 6, 7, 8, 9, 18

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ISTE 1.5	Computational Thinker—break problems into parts and test solutions.	Ch 1, 3, The Last Chapter (a foundation; the book does not include algorithms or programming)
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AASL—National School Library Standards

From the AASL Standards Framework for Learners (American Association of School Librarians, 2025). The Shared Foundations apply across all grade levels.

Shared Foundation	Description	Primary Chapters
I. Inquire	Build new knowledge by asking questions, thinking critically, identifying problems, and developing strategies for solving them.	Intro, Ch 1, 2, 4, 10, 15
II. Include	Demonstrate an understanding of and respect for differing perspectives within the learning community.	Ch 11, 16, 17
III. Collaborate	Work effectively with others to broaden perspectives and pursue shared goals.	Intro, Ch 6, 7, 17, The Last Chapter

Standards Alignment

IV. Curate	Make meaning by collecting, organizing, and evaluating information from a variety of sources.	Ch 10, 11, 14, The Evidence
V. Explore	Discover and innovate through curiosity, experience, and reflection in a growth mindset.	Ch 5, 8, 9, 18, Try This boxes
VI. Engage	Demonstrate safe, legal, and ethical creation and sharing of knowledge products within a community of learners.	Ch 10, The Evidence

Meet the Real D-Squad

The four dogs in this book are real. They live in Florida. They have opinions about where you sit, whether you're taking too long in the kitchen, and who gets the good spot on the couch. Every chapter was written with at least one of them in the room.

Phoebe



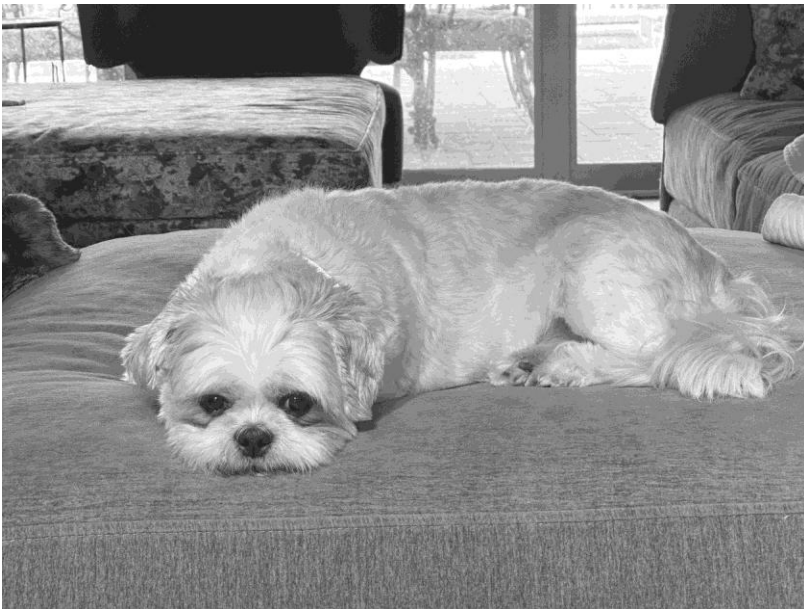
Not part of the squad. She's management.

Meet the Real D-Squad

Cream and curly, born on Valentine's Day 2012, the oldest of the four, and not impressed. Phoebe doesn't solve cases. She runs the operation when she's not sleeping. She observes from her preferred elevated position, says almost nothing, and delivers the occasional verdict. She has had ACL surgery on both back legs and still runs the show.

Fun fact: Phoebe declined to provide a fun fact.

Sullivan (Sully)



Presents the evidence.

Cream-colored, confident, and first to the scene. Sully gathers the clues, walks everyone through the

Meet the Real D-Squad

case, and announces the answer with complete certainty. Even when he's missed something. He loves long walks and hates being called Sullivan.

Fun fact: Born July 27, 2018. Half-brother to Dash, same dad, five weeks apart.

Taz (Baz in the book)



First, with the wild guess.

Black, fluffy, tongue perpetually out. Taz throws out every idea. Including the impossible ones. He's wrong most of the time, except when he isn't, and when he's right, nobody can believe it. Full energy, full heart, zero filter.

Meet the Real D-Squad

Fun fact: Born July 27, 2016. Shares a birthday with Sully, two years apart. Taz had it first.

Dash



Quietly puts it all together.

Black and white, blue-collar, the calm one when the squad gets loud. Dash listens to every wild guess, sorts through the evidence, and finds the answer most days, though Sully usually announces it. Patient, observant.

Fun fact: As small as he is, he is able to jump from the floor to the stool and then cruise the island.

About the Author



Phil Weiss spent thirty-five years in the corporate world, picking up a PhD in international entrepreneurship and a doctorate in innovation and creativity along the way, which is mostly a fancy way of saying he never stopped asking “why?” Now he writes books that help kids ask it too. He lives in Florida with his wife of over thirty-two years, Kim, and the real D-Squad: Sully, Taz (known as Baz in the book), Dash, and Phoebe. They supervise every

page. (Phoebe prefers to supervise from a slight distance.)

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For Readers

This book gets better when you tell me what you think. Every printing is a chance to fix what didn't work, and there are more D-Squad books coming. If something confused you, or you wanted more of something, I want to know. You know what makes a good book better than a lot of grown-ups do.

Ask a parent or guardian for permission, then go to www.philweiss.com/readers

No personal information is collected, and all questions and answers are posted to the website.

For Parents, Teachers, Librarians & Homeschool Families

Free printables—the Four-Dog Field Guide, the My Case worksheet, the Standards Alignment, the Discussion Questions, 18 dares (Try This), and the Glossary are available at www.philweiss.com/downloads

Phil visits classrooms, schools, libraries, and homeschool groups, in person and virtually. Details and booking at www.philweiss.com/visits

Phil donates books to schools, shelters, and homeschooling families. Details at www.philweiss.com/donations

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