David Epstein

INSIDE THE BIG IDEAS

Inside the Box: How Constraints Make Us Better

David Epstein

ABOUT THE AUTHOR

David Epstein is the author of the number one *New York Times* bestseller *Range* and the *New York Times* bestseller *The Sports Gene*.

He holds master's degrees in environmental science and journalism and has worked as a senior writer for *Sports Illustrated* and as an investigative reporter for ProPublica. His writing has been honored by an array of organizations, from the National Academies of Sciences, Engineering, and Medicine to the Society of Professional Journalists and the National Center on Disability and Journalism, and has been included in the *Best American Science and Nature Writing* anthology.

David has given talks about performance science and the uses (and misuses) of data on five continents, and his TED Talks have been viewed more than 12 million times. He lives in Washington, DC.

OVERVIEW

We tend to believe that more freedom will bring better results. More choice means more creativity. More time means more polished work. More money and resources mean greater success. In *Inside the Box*, David Epstein challenges that assumption, arguing that too much freedom can just as easily overwhelm us, scattering our attention and causing paralysis rather than progress. In a world of overwhelming choice, when it's never been easier to do too much, the real challenge isn't expanding our possibilities—it's learning how to narrow them.

Epstein opens with one of the most famous stories in the history of science: Dmitri Mendeleev's discovery of the periodic table. The popular version holds that Mendeleev saw the table fully formed in a dream. But Epstein reveals that

the actual story is far more complicated. Mendeleev wasn't simply waiting for inspiration to strike; he was boxed in by a book contract that had him struggling to organize the known elements into a usable chemistry textbook. That intense pressure—the need to impose order *now*—helped produce one of the most significant breakthroughs in scientific history.

From there, Epstein widens the lens, moving through examples from science, business, technology, and art to show how constraints can focus attention, sharpen decisions, and turn sprawling ideas into workable solutions. The pattern reappears again and again: when everything is possible, ideas tend to sprawl; when the right limits are in place, thinking becomes clearer and progress accelerates.

The result is a powerful reframing of constraint itself. Limits aren't just frustrating obstacles to overcome; they're tools you can actively use. Epstein shows how to recognize the constraints already shaping your life, and how to design better ones, whether you're tackling a creative project, making a major decision, or simply trying to focus your time and energy. The goal isn't to escape the box, but to build one that works for you.

5 KEY IDEAS FROM INSIDE THE BOX

Below is a concise distillation of some of the book's most actionable ideas, in the author's own words.

1. Make all your current commitments visible.
2. Batch your email.
3. Block the familiar solution.
4. Start with the box.
5. Set *satisficing* rules and stick with them.

1. Make all your current commitments visible.

At one genomics lab, the staff took the time to write each of their current projects on Post-it notes (one project per Post-it) and put them up on a wall. They immediately noticed that they had way too many things in progress at once. The lab team saw the importance of picking priorities to focus on.

Making all your commitments visible is a useful exercise. This can be done for personal matters, professional tasks, or both. **When taking account of every-**

thing, ask yourself, "If I had to cut one of these things out in the next 90 days, which would it be?" That doesn't mean you have to kill it forever, but maybe you put it on hold because constraints can help clarify your priorities. That's what this exercise is about. Most people or teams who do this realize that they're overcommitted and that a lot of medium-priority tasks are competing with top-priority tasks.

Humans are bad at taking things away. So think of this exercise as a subtraction audit. We have a bias called *subtractive neglect bias*, meaning we overlook solutions that involve taking things away. Do this regularly to actively reduce obligations rather than only accumulating more.

2. Batch your email.

Psychologist Gloria Mark has spent two decades observing people at work to understand what they do all day. In one of her more recent studies, she found that people in offices check email about 77 different times a day. That's the average. And that leads to lower productivity and higher stress. New evidence suggests that this kind of frequent toggling might even affect immune function, but we do know it affects stress, because switching tasks frequently causes the quality and pace of work to drop. **Less gets done, and it's not done as well.**

Dr. Mark likes to describe the brain as a whiteboard: when doing a task, you're writing on the whiteboard, and when you switch, you erase, but it leaves a residue that interferes a little bit with the next thing. By toggling back and forth all day, you're building up that residue and shrinking cognitive bandwidth for each successive task. This isn't to say you can't answer your email, but consider dividing it into one, two, or three batches a day. What you don't want to be doing is switching back and forth all day long. In fact, if you can batch your work in general, that can be helpful for boosting productivity and lowering stress.

If monotasking sounds difficult, maybe start your day with 30 minutes of non-toggling work during which you focus exclusively on your most important task. You can gradually work up to longer and longer blocks of time before opening that inbox. Ideally, you can eventually block all your work so that the different types of things you do in a day are done within their own monotask blocks of time. This will increase your productivity and make you feel less stressed at the end of the day.

3. Block the familiar solution.

This might be the single greatest creativity prompt. When you block the solution that you're used to choosing, it forces you to think in new ways. Psychologists sometimes call this a *preclude constraint,* where you're precluding whatever the

familiar path is to force doing something else.

As the cognitive scientist Daniel Willingham has said, you may think that your brain is made for thinking, but it's actually made for preventing you from having to think whenever possible. Thinking is energetically costly, so your brain wants to do the thing that's easy. When faced with a problem or a task, your brain will reach for what cognitive psychologists call *the path of least resistance*, which means something that's convenient or habitual.

But if you want to be creative, you want to block that default. Sometimes it's blocked by necessity, and that's why we have the adage that necessity is the mother of invention. **When the easy option is not a choice, you're forced to do something inventive.** But if you're just trying to be more creative, think about whatever you're doing and block it.

Let me give you a sense of how I applied this in some of my own work. When working on this book, I would start new chapters by writing down the first thing that popped into my mind. But then I would say, "Cross that out. I can't use this as my beginning. I have to find something else." It was annoying and inconvenient, but it forced me to think hard about what is really the best place to start the chapter, not just the first thing that came to mind.

Whatever your creative task is, don't jump to the familiar solution. Maybe, at work, consider saying, "If we couldn't recommend the usual thing at our next client meeting, what would we do instead?" Even if you end up choosing the familiar solution after all, it can be worth exploring the results of this generative, creative prompt before deciding.

4. Start with the box.

This is a tip that comes from Tony Fadell. He's publicly known as the "pod father" because he was the lead designer of the iPod, and then he went on to cofound the smart thermostat company, Nest. The main advice that he gives entrepreneurs is to start by writing the press release before embarking on the project. In fact, at Nest, he had the team prototype the literal box before they had the product. He said, "This will force us to prioritize the things that we're trying to communicate to the end user. It will force us to clarify what those things are and decide what the priorities are."

Similarly, he suggests that entrepreneurs write a single-page press release as if their project were done. Answer: What do I want this to look like? What problem is it solving? What do I hope people say about it when it's done? That gives a bounding box for the project. Suddenly, you have guide rails to work within. It doesn't mean you can't change them, but if you do, you are aware that

you are making thoughtful trade-offs. **This can keep a project contained and channeled.**

I tried this for myself, even just for a few personal projects. I found it a useful exercise that forces you to think about why you're doing what you're doing, define your theory of what you're doing, what you hope it looks like, and what the priorities are. Some people think of it as working backward. These kinds of constraints can be annoying because, as Tony Fadell says, setting boundaries early on slows you down, but they are powerful because they force you to think ahead.

I took a cue from Fadell because my previous books had really sprawled, so this time around, I made a full structural outline of the book on a single page. I tried to foil my own system by writing as small as possible, but this exercise forced me to ruthlessly prioritize. As a result, this was the first time I hadn't written 50 percent over the length I was allotted for a book. Even though writing this outline slowed me down initially, it drew boundaries that allowed me to write very fast once it came time to execute. I turned the book in early, which is unheard of for me.

5. Set satisficing rules and stick with them.

Satisficing is a term coined by Herbert Simon, who was a Nobel laureate in economics and one of the founders of AI and cognitive psychology. Satisficing is a combination of *satisfy* and *suffice*. What Simon found was that humans cannot optimize their decisions in the way that classical economic theory would have us do because we have limited bandwidth to evaluate different options and predict the future. So, we must satisfy ourselves by selecting good-enough options.

Simon suggested that we should proactively set good-enough rules for our decisions, and once those are surpassed, we go with the option and don't look back. Maybe whatever decision you make or purchase you make or whatever it is goes way beyond the good enough limits, but once you pass them, you go with it. If you're making a purchase, you establish what you need the item to do and once you find that option, you take it and move on.

The opposite of satisficing is what's called *maximizing*. That's where you're really trying to evaluate every option and make the best decision. This is like when you've found something you'd like to watch on Netflix, but because there might be something better, you keep searching. Dating apps are an obvious example: you find someone you like, but choose to swipe some more anyway, because who knows what's around the next corner?

Psychology research shows that it's almost always bad to be a maximizer. Maximizers are less satisfied with their decisions. They're less satisfied with their lives.

They're much more prone to regret. They prefer reversible decisions, even when they end up happier with irreversible decisions. Just the option to always keep their options open is something that draws them into a certain level of unhappiness.

We can all do with a little more satisficing in this world, where it has never been easier to compare every decision and aspect of life to an almost infinite number of other people and other options. It's important for our well-being to think about and set good enough rules. Simon himself wore the same brand of socks. He always owned one beret at a time and only bought a new one when the one he had got worn out. He told his daughter that a person only needs three pairs of clothing: one on one's body, one in the closet ready to wear, and one in the wash. He ate the same breakfast every day. He lived in the same house for 46 years. He famously wrote, "The best is the enemy of the good." You'd almost accuse him of having low standards if he hadn't won the highest possible awards in psychology, computing, and economics. Simon recognized that by satisficing, you deliberately save cognitive bandwidth for other areas where it really matters.

TALKING POINTS

Here are a few of the most memorable and shareable stories and facts from Inside the Box.

The broken backboard advantage. Kyrie Irving, one of the greatest finishers in NBA history, honed his game on a driveway hoop missing part of the right side of the backboard. As an ESPN article recounts: "Repairs might have been made but for a peculiar benefit: Kyrie learned how to play strange angles and apply spin just so."

Why new things look like old things. Early electric vehicles didn't need to mimic gas-powered cars but many did, from nozzle-like charging cables to familiar body shapes. This reflects a design principle known as *skeuomorphism*: new technologies borrow elements from older ones to make them easier to understand. Think of the folder icons on your computer desktop. By wrapping innovation in familiar forms, designers help users adopt something new without feeling lost. Without those cues, even great ideas can fail to catch on.

When too much freedom breaks science.
With massive datasets and powerful statistical tools, scientists can test countless hypotheses until something "significant" appears—even if it's just noise. The result is a growing reproducibility crisis. A landmark 2015 effort to replicate one hundred psychology studies found that fewer than half held up. Without constraints on how data is analyzed, more information doesn't necessarily lead to better conclusions; it can lead to convincing but completely wrong ones.

Why scientists pre-commit. To combat this problem, many researchers now "pre-register" their hypotheses and methods before running experiments. By constraining their choices up front, they limit the ability to chase random patterns after the fact, reducing bias, avoiding cherry-picking, and producing more reliable results.

The huddle's hidden origin. The now-standard huddle began with deaf players at Gallaudet University, who gathered closely to keep opponents from reading their signed plays.

I do not like them, Sam-I-Am. The "Green Eggs and Ham" model of creativity, coined by psychologist Catrinel Tromp, captures a paradox: tighter constraints can lead to more inventive results. The name comes from Dr. Seuss, who wrote the classic children's book *Green Eggs and Ham* after his publisher, Bennett Cerf of Random House, bet him fifty dollars that he couldn't do it using just fifty distinct words. Rather than stifling Seuss's creativity, the limitation supercharged it, resulting in one of the most iconic books of all time.

In praise of subtraction. Faced with a problem, we almost always add—more features, more steps, more ideas. But the better solution is often subtraction. Computer scientist Fred Brooks captured this with what became known as *Brooks's Law*: adding more people to a late software project only makes it later. Why? Because every addition increases coordination, communication, and complexity. We tend to underestimate these hidden costs, assuming more input will speed things up when it often does the opposite. Our deep-seated bias toward adding may be one of the biggest barriers to clear thinking and better outcomes.

The dark side of unlimited choice. Danish philosopher Søren Kierkegaard warned of the "dizziness of freedom," the anxiety that comes with too many choices. Building on that idea, psychologist Erich Fromm argued that when freedom becomes overwhelming, people don't always rise to the challenge; instead, they try to escape it. In some cases, that means surrendering autonomy altogether, gravitating toward rigid systems or authoritarian leaders who replace uncertainty with clear rules and direction. When the burden of choice becomes too heavy, the appeal of constraint can turn from productive to dangerous.

Think big, start small.
Researcher Bent Flyvbjerg, who studies megaprojects around the world, has found that the bigger the vision, the more important it is to begin with small, low-risk experiments. He points to architect Frank Gehry, who tested ideas on his own house before applying them to projects like the Guggenheim Bilbao,

one of the rare large-scale builds to come in on time and under budget. The same principle shows up in solar farms, which avoid massive cost overruns because they're modular, and engineers can test changes on a single panel before scaling up. The lesson is simple but powerful: successful problem solvers don't tackle massive challenges all at once; they find ways to shrink them.

Writing in a second language. Before becoming an international literary phenomenon, Japanese novelist Haruki Murakami found himself stuck writing in a style that felt too easy, and not very distinctive. So he tried an unusual experiment: he switched from Japanese and wrote in his limited English, then translated it back to Japanese. "I could only write in simple, short sentences," he recalled. "The language had to be simple, my ideas expressed in an easy-to-understand way, the descriptions stripped of all extraneous fat, the form made compact, everything arranged to fit a container of limited size." The constraint forced clarity and compression, helping him discover a voice that was unmistakably his own.

Quiet learning: Background music can be energizing or calming, and in some cases improve performance, but it can also be distracting, especially when you're learning something new. Studies show that upbeat music can impair performance among surgeons practicing unfamiliar procedures, and surveys of software developers find they often turn music off when working with new tools.

PUT IT INTO PRACTICE

Here are a few ways to apply the ideas from Inside the Box *to your work, relationships, and everyday decision-making.*

At Work

- **Start with guardrails, not ideas.**

Define the audience, goal, and constraints upfront. Clarity early prevents wasted effort later.

- **More people, more problems.**

If a project is dragging, resist adding people. Smaller teams often move faster and decide more clearly.

- **Win small first.**

Identify one piece you can complete and test right away instead of tackling the whole project at once.

Creativity

- **Change the rules of the game.**

If you're stuck, switch constraints—write shorter, sketch instead of type, or impose a specific structure.

- **Give yourself a box.**

Set a word count, time limit, or format and let the boundary shape the work.

Decision-Making

- **Fewer choices, better decisions.**

Eliminate a few options upfront. Constraints clarify what actually matters.

- **Decide how you'll decide.**

Set criteria in advance (budget, time, priorities) to avoid endless second-guessing.

Learning

- **Turn down the noise.**

When starting something new, reduce distractions and focus on one clear input.

- **Try it before you "get" it.**

Test a small version instead of waiting to fully understand everything first.

Everyday Life

- **Pick a lane.**

Commitment, whether to a routine, a hobby, or a path, can reduce the mental strain of constant comparison.

- **Add one helpful limit.**

A capped to-do list or a defined stopping point can create more focus than total flexibility.

DISCUSSION QUESTIONS

These questions are designed to spark reflection and conversation about the book's ideas and how they show up in your own work and life.

First Impressions

1. We're told more freedom leads to better outcomes. Epstein argues the opposite: that too much freedom can stall us. Have you experienced that firsthand?

2. What's one moment or example from the opening chapters that made you stop and rethink how you approach your work or decisions?

3. In your own life, where do you feel overwhelmed by options right now? What might narrowing them actually look like?

Rethinking Creativity

4. When you start something new, do you tend to define clear constraints upfront or figure them out as you go? How has that approach worked for you?

5. Epstein describes how a broken arm forced him to develop memory techniques that ultimately made him *better* at learning. Have you ever had a limitation that unexpectedly improved your abilities?

6. Epstein suggests that the *type* of constraint matters more than the number of constraints. Can you think of a time when one well-chosen limit (a deadline, a format, a rule) made a project noticeably better?

Work & Projects

7. The collapse of General Magic shows what can happen when a project has no clear boundaries. Have you ever been part of something like that?

8. Epstein highlights how hard it is to decide what *not* to do. How do you make those calls in your own work?

9. Where in your current projects could you simplify—cutting features, scope, or ambition—in order to move faster?

How We Learn

10. *Inside the Box* suggests that without constraints, we don't learn effectively—we just drift. In your experience, does this resonate?

11. How often do you actively test your assumptions versus looking for evidence that supports them? (Be honest!)

12. What's a complex problem in your life that might benefit from being "shrunk" into something more manageable?

Personal Reflection

13. Epstein argues that commitment can be freeing, and choosing a path removes the burden of endless comparison. Has that been true for you?

14. Which idea in *Inside the Box* did you find hardest to accept? Why?

15. If you could introduce one useful constraint into your life right now—on your time, focus, or options—what would it be?

KEEP EXPLORING

If you'd like to explore the power of constraints further, here's a selection of books that David Epstein personally recommends, along with his notes on why each one deserves a spot on your reading list.

***Duke: A Life of Duke Ellington* by Terry Teachout (2013).** A biography of the greatest jazz composer of the twentieth century that opens by framing him as "the most chronic of procrastinators," a man who left letters unanswered and compositions unwritten until the last possible moment. Ellington liked to say: "I don't need time. What I need is a deadline!" Teachout's *Duke* is a portrait of an artist whose seventeen-hundred-odd compositions were produced not in spite of the constraints of touring, payroll, and imminent downbeats but because of them. "Nothing but an immovable deadline could spur Duke Ellington to decisive action," Teachout writes, "though once he set to work in earnest, it was with a speed and self-assurance that amazed all who beheld it."

***Build* by Tony Fadell (2022).** The memoir of the engineer behind the iPod and the Nest thermostat details a career spent shipping products under brutal constraints of size, battery life, timeline, and what an ordinary family will tolerate on the wall. Fadell treats limits as the generative force behind good design.

***The Grasshopper: Games, Life and Utopia* by Bernard Suits (1978).** Wittgenstein declared there's no shared essence linking everything we call a "game," but the philosopher Bernard Suits thought otherwise. In this twist on Aesop's fable, the grasshopper defends his choice to play games all summer while the ants worked. The setup builds toward a definition of games: "the voluntary attempt to overcome unnecessary obstacles." A basketball player could more easily carry the ball to the hoop; a cyclist could get there faster by cutting the course or taking a car. But, as in life, the obstacles make achievement and meaning possible.

***The Wright Brothers* by David McCullough (2015).** Two bicycle mechanics on a shoestring budget beat a well-funded Smithsonian program to powered flight precisely because they had no money to buy their way around problems they didn't understand. They improvised their own wind tunnel and reasoned through the physics from scratch.

***A Void* by Georges Perec (1969; English translation by Gilbert Adair, 1994).** Something is missing in this novel. A man who has vanished, but something else. The characters feel a void, but aren't quite sure why. The reader, though, can see it clearly. Perec wrote this 280-page novel without using the letter "e" (even more difficult in French), and the result is eerie and vivid. (Adair repeated the feat in translation.) Perec was a member of the Oulipo, a collective of writers and mathematicians who saw limitations as the engine of creative discovery. One member described them as "rats who construct the labyrinth from which they plan to escape."

***The Goal: A Business Graphic Novel* by Eliyahu M. Goldratt, adapted by Dwight Jon Zimmerman, illustrated by Dean Motter (2017; based on the 1984 novel by Goldratt and Jeff Cox)**. Alex Rogo has 90 days to save his failing factory or corporate will shut it down. A former professor named Jonah helps him see what's hiding in plain sight: the plant's biggest constraint—its bottleneck—is the leverage point that determines the performance of the entire system. Goldratt's Theory of Constraints, introduced in the original 1984 novel, turned a counterintuitive insight into one of the most influential ideas in operations: stop trying to improve everything, and focus on the one thing that's actually holding you back. The original book is bizarre and compelling, but also longer than it needs to be. The graphic novel captures the important ideas more succinctly.

READING QUIZ

Quiz time! Research shows that tests and quizzes can boost your recall of what you've studied. So after you've finished reading Inside the Box*, lock in your learning with this brief assessment. Good luck! Quiz time! Research shows that tests and quizzes can boost your recall of what you've studied. So after you've finished reading* Inside the Box*, lock in your learning with this brief assessment. Good luck!*

1. What did Pixar's "Three Pitches Rule" require directors to do?

A) Pitch three endings for every film

B) Pitch three film ideas instead of fixating on one too early

C) Pitch only ideas based on existing franchises

D) Pitch three versions of the same character

2. What unexpected outcome did researchers find when people were given too many choices in experiments?

A) They made faster and better decisions

B) They were more satisfied with their choices

C) They were less likely to choose anything at all

D) They preferred more complex options

3. What did employees at a tea company in Malawi gain from the "pay me later" plan?

A) Higher wages every week

B) More time off after harvest season

C) More assets and greater likelihood of home improvements

D) Guaranteed promotions

4. True or False: Electronic road signs displaying traffic death totals in Texas reduced crashes by making drivers more cautious.

5. In the custom gearbox case study, what rule helped the design office dramatically improve output?

A) "Move fast and break things"

B) "Stop starting and start finishing"

C) "Hire more designers"

D) "Brainstorm before building"

6. What did economists find about women business owners inside some markets in Lusaka, Zambia?

A) They collaborated less than women outside markets

B) They collaborated with men as often as men did

C) They avoided shared orders entirely

D) They preferred not to use market chiefs

7. What was the key constraint in the "Do Something" rule used by certain teams?

A) Always follow a detailed plan before acting

B) Avoid making decisions without full data

C) Take immediate action rather than overanalyzing

D) Delegate decisions to senior leadership

8. What does "brainwriting" improve on compared with traditional group brainstorming?

A) It lets the highest-paid person decide faster

B) It removes all criticism from the process

C) It allows people to generate ideas individually before group discussion

D) It eliminates the need for collaboration

9. Canadian philosopher Bernard Suits defined playing a game as:

A) Competing to win at any cost

B) Avoiding unnecessary difficulty

C) The voluntary attempt to overcome unnecessary obstacles

D) Following rules created by others

10. What does Epstein admire about haiku as a constraint?

A) It allows poets to say anything at any length

B) Its small form forces presence, compression, and iteration

C) It removes the need for revision

D) It works best when writers ignore its structure

Answer Key

1. B, 2. C, 3. C, 4. False, 5. B, 6. B, 7. C, 8. C, 9. C, 10. B

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