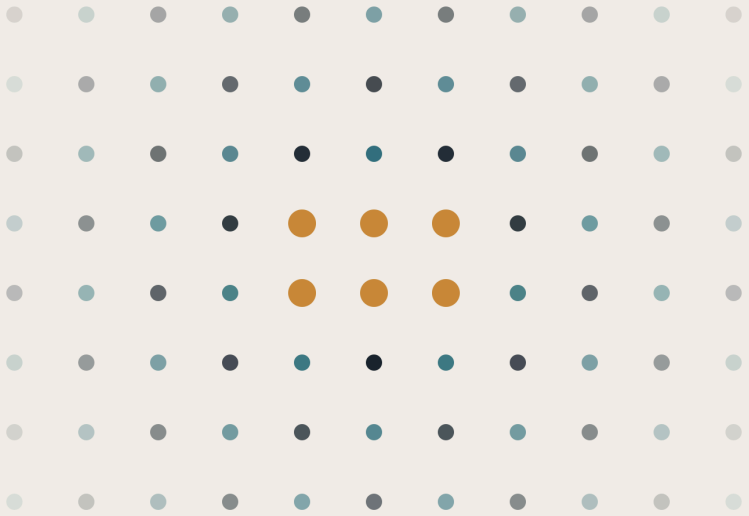
THE WEB3 BOOK

Making Sense of the Internet's Next Era



BRUNO PIERRI GALVAO

The Web3 Book (Sample)

Making Sense of the Internet's Next Era

Bruno Pierri Galvao

The Web3 Book

Making Sense of the Internet's Next Era

Bruno Pierri Galvao

Everyone has heard of Web3, crypto, blockchains, NFTs, and DAOs — and almost no one can say, clearly, what any of it actually is. This book answers that question plainly and honestly. It starts from how the internet itself works and builds, step by step, to what Web3 really proposes: an internet where people, not platforms, control their own identity, data, and money.

It is written for the curious and the skeptical alike — neither a sales pitch nor a takedown. Every term is explained in plain language with a real-world analogy, every claim is weighed against the evidence, and the hype is separated from what is genuinely new.

Figures and claims reflect the state of knowledge as of 2026 and are dated where they are time-sensitive. Nothing in this book is financial or legal advice.

Preface: How to Read This Book

This book attempts something that is harder than it may first appear: to answer a single question — *What is Web3?* — with genuine depth and rigour, while remaining genuinely readable by someone who has never written a line of code, set up a "wallet," or thought hard about how the internet works. Most writing on this subject picks one audience and abandons the other. Technical literature assumes you already understand hashing, consensus, and public-key cryptography. Popular writing assumes you do not, and so skips the very details on which every serious claim about Web3 actually depends. This book refuses both shortcuts. It is written on the conviction that an educated, curious person can understand this material properly — not in caricature — if it is built up patiently and in the right order.

The dual aim, and how the book honours it

The tension between rigor and accessibility is real, but it can be managed rather than split the difference. In this book, **rigor lives in the argument and the evidence**: claims are supported by citations to real sources; competing positions are presented in their strongest form before being weighed; technical terms are defined precisely; and the limits of what can honestly be claimed are stated plainly. **Accessibility lives in the prose**: nothing is left as unexplained jargon, sentences aim for clarity rather than ornament, and any idea that would normally be expressed in mathematics is instead described in words.

Several deliberate devices serve the reader. The first is *define-before-use*: the first time a technical term appears, it is set in **bold**, given a plain-language definition, and paired with a concrete real-world analogy. Because analogies can mislead as easily as they illuminate, each one is followed, where it matters, by a note on exactly where the analogy breaks down — so that a simplification never hardens

into a falsehood. The second device is a recurring restatement, marked throughout the text like this:

> ***In plain terms:*** *after any dense or technical passage, you will find a short paragraph like this one that says the same thing again in everyday language. If a section's argument feels slippery on first reading, find the next "In plain terms" note and start there.*

The third support is a **Glossary** in the back matter, which collects every key term with a one-line definition, so that a concept introduced in an early chapter can be refreshed later without hunting back through the text. Together these devices are not decoration; they are the mechanism by which the book tries to keep its promise to two audiences at once.

How different readers might use this book

The book is built to be read straight through, and a reader who does so will get the fullest version of its argument. But it is long by necessity, and not everyone needs all of it. A few suggested paths:

- **The curious newcomer** who simply wants orientation can read Part I (the framing of the question), Part II (the history of the web that sets up why anyone proposed an alternative), and then skip to the Conclusion (Chapter 35). This gives the story and the verdict without the full technical machinery in between.
- **The reader who just wants the answer** — a working definition of Web3 and a considered judgement about its claims — can go directly to Chapter 25, *Toward a Definition*, and Chapter 35, *Conclusion*. These two chapters are written to stand largely on their own, with cross-references back to the supporting material for anyone who wants to check the reasoning.
- **The reader who wants to understand the technology** rather than take it on faith should not skip Part III (cryptography, distributed systems,

blockchains, Bitcoin, Ethereum, consensus). These chapters are the conceptual heart of the book, and the later assessment of Web3's claims rests on them. They are also the chapters most carefully written for someone without a computing background; Chapter 2, *A Reader's Primer*, builds the groundwork from the very beginning — what a server is, what "the cloud" means — and assumes nothing.

- **The reader interested in the stakes rather than the mechanics** — the politics, the money, the law, the harms and the hopes — will find the most relevant material in Part V (Web3 as ideology, and the crucial distinction between Web3, the Semantic Web, and the metaverse) and Part VI (use cases, critiques, externalities, regulation, and security).

Cross-references throughout point between chapters so that any path can be followed without getting lost, and so that no concept has to be explained twice.

On citations and sources

This is a work of scholarship, and its authority rests on its sources. It uses author–date citations in the text — for example (Nakamoto, 2008) or (Wood, 2014) — with full references gathered at the end of each chapter and consolidated in the master bibliography in the back matter. A reader new to this convention can safely treat the parenthetical names and dates as signposts: they indicate that a claim rests on a specific, traceable source, which can be looked up and checked. One commitment is worth stating explicitly, because the field around Web3 is unusually prone to confident assertion without evidence: **every source cited in this book is real and verifiable.** No author, title, statistic, quotation, or web address has been invented. Where the available evidence is thin, contested, or merely anecdotal, the book says so rather than dressing up a guess as a finding.

What to expect in tone

The reader should expect even-handedness, and should hold the book to it. Web3 attracts two equally unhelpful styles of commentary: uncritical promotion, which treats every claim as already proven, and reflexive dismissal, which treats the

whole enterprise as obviously fraudulent. This book does neither. It presents the strongest version of the proponents' case and the strongest version of the critics' case, and then weighs them against the evidence. Where Web3 has produced real innovation, that is said clearly. Where its rhetoric outruns what has actually been demonstrated, that is said equally clearly. The aim is not to persuade the reader to adopt Web3 or to reject it, but to equip the reader to think about it well. This book does not offer financial advice, and discussions of tokens, decentralized finance, and related instruments are analytical, never recommendations.

A note on scope and timing

Finally, two honest limits. First, scope: this book answers one question — *what Web3 is* — and not the many adjacent questions it could have chased ("how do I build an application?", "which token should I buy?"). That discipline is what keeps a large book from becoming an unfocused encyclopedia. Second, timing: Web3 is a fast-moving and still-young phenomenon, and this book is a snapshot taken in the mid-2020s. Particular projects, prices, regulations, and technical details will date quickly. The book is therefore built to age as gracefully as possible by emphasizing the durable structure — the concepts, the arguments, the ideology, and the pattern of claim and evidence — over the ephemeral specifics. A reader years from now should still find the framework useful for making sense of whatever "Web3" has by then become.

With that, we turn to the question itself.

---

01. Introduction: The Question "What Is Web3?" and Why It Resists a Simple Answer

This chapter establishes the central problem the book sets out to solve: a single, short question — *What is Web3?* — that ought to have a tidy answer but stubbornly does not. The aim here is to explain *why* the question is hard before attempting to answer it, to preview the book's own carefully qualified answer, and to lay out the route the remaining chapters will take. A reader who finishes this chapter should understand what kind of thing Web3 is being claimed to be, why intelligent people disagree so violently about it, and why the disagreement matters even to those who never intend to buy a cryptocurrency or download a digital wallet.

1.1 A deceptively simple question

Ask ten well-informed people what Web3 is and you will likely receive ten different answers, several of them mutually contradictory, and a few delivered with the heat usually reserved for politics or religion. A software engineer might tell you it is a set of applications that run on a **blockchain** — for the moment, think of a blockchain as a shared record book that thousands of strangers' computers keep simultaneously, so that no single person can secretly alter it (the technology is defined properly in Chapter 11). A venture capitalist might tell you it is the third great era of the internet, the moment when ordinary users finally come to *own* pieces of the online services they use. A privacy activist might describe it as the long-awaited fulfilment of a decades-old dream of an internet

that needs no trusted middlemen. A journalist covering financial fraud might tell you, with equal conviction, that it is a marketing label wrapped around a casino. And a sceptical computer scientist might tell you it is, in plain words, mostly nonsense.

These are not the answers of people who are merely uninformed. Each speaks from genuine expertise and genuine experience. The difficulty is not that the truth is hidden and only one of them has found it; the difficulty is that the word *Web3* is doing different jobs in each speaker's mouth. It names, by turns, a family of technologies, a vision of the future, a political philosophy, an asset class, and a sales pitch. The question "What is Web3?" therefore behaves less like "What is the boiling point of water?" — a question with a settled, checkable answer — and more like "What is jazz?" or "What is liberalism?" — questions where the honest first move is to acknowledge that the term is *contested*, that reasonable people use it differently, and that any answer must begin by mapping the disagreement rather than pretending it away.

> ***In plain terms:*** *The reason it is hard to say what Web3 is has less to do with the technology being complicated (though it is) and more to do with the word itself being used to mean several different things by different people, often at the same time. Before we can answer the question, we have to understand why the question is slippery.*

This book takes that slipperiness seriously. It treats the *contest over the definition* not as an annoyance to be brushed aside but as one of the most revealing facts about the subject. How a community fights over what to call itself, and what to include or exclude under its banner, tells us a great deal about what that community actually wants.

1.2 The same word, five different speakers

To see why the term resists a simple answer, it helps to separate out the communities that use it, because each has a distinct stake and therefore a distinct

definition.

The engineers and inventors use *Web3* in its narrowest and most precise sense. The word was coined in this technical meaning by **Gavin Wood**, a co-founder of the Ethereum platform, in an April 2014 blog post titled "ĐApps: What Web 3.0 Looks Like" (Wood, 2014). Writing in the aftermath of Edward Snowden's revelations about mass state surveillance, Wood argued that "entrusting our information to organisations in general is a fundamentally broken model," and proposed instead a "zero-trust interaction system" — a way of doing things online whose rules are enforced by mathematics and software rather than by trust in any company or government (Wood, 2014). For Wood, Web3 was a concrete engineering proposal with four named parts: a way to publish content that no one can quietly take down, a way to send messages pseudonymously, a "consensus engine" (the shared-record-book technology), and a browser to tie it together. This is the original, load-bearing definition, and the book returns to it repeatedly.

The entrepreneurs and investors use a broader, more optimistic definition built around a slogan. In *Read Write Own* (2024), the venture capitalist **Chris Dixon** frames the entire history of the internet as three eras: a "read" era in which early networks let people *access* information, a "read–write" era in which corporate platforms let people *publish* it, and a coming "read–write–own" era, "sometimes called web3, in which blockchain networks are granting power and economic benefits to communities of users, not just corporations" (Dixon, 2024). Note that Dixon, a general partner at the investment firm Andreessen Horowitz, has a direct financial interest in the success of the technologies he describes — a fact the book will weigh fairly rather than use to dismiss his arguments. In this framing, the defining promise of Web3 is *ownership*: the idea that users might hold genuine stakes in the digital spaces they inhabit, the way a shareholder holds a stake in a company.

> ***In plain terms:*** *One influential way to summarise the whole idea is a three-word story about the internet: first we could only read what was online; then we could also write and post our own content; now, the claim*

> *goes, we will also be able to own a piece of it. Whether that third step is real or merely advertising is exactly what is in dispute.*

The privacy advocates and ideologues use *Web3* to name the latest chapter in an older political project. Its roots lie in the **cypherpunk** movement — a group founded in 1992 by Eric Hughes, Timothy C. May, and John Gilmore, who believed that strong cryptography (the mathematics of secret codes) could let individuals protect their privacy and transact freely without permission from states or corporations (Hughes, 1993). For people in this lineage, Web3 is less a product than a continuation of a decades-long fight to build, in Hughes's words, "anonymous systems" that defend privacy "with cryptography" (Hughes, 1993). The book devotes Chapter 26 to this ideological strand, because it is impossible to understand Web3's emotional charge without it.

The marketers use *Web3* as a brand. Beginning around 2021, the word migrated from engineering blogs into advertising campaigns, conference banners, and company press releases, often attached to products that had little to do with Wood's original four components. Critics argue this is the most consequential usage of all. The software engineer Stephen Diehl, for instance, characterised Web3 as "a vapid marketing campaign that attempts to reframe the public's negative associations of crypto assets into a false narrative about disruption of legacy tech company hegemony" (Diehl, 2021). Whether or not one accepts that verdict, it is undeniable that much of the word's public life has been as a label designed to sell things.

The critics, finally, use *Web3* to name what they regard as a recurring pattern of overstatement, recentralization, and outright fraud. The Signal founder Moxie Marlinspike, after building applications on the technology himself, concluded that despite its decentralization rhetoric the ecosystem was quietly re-consolidating around a handful of central companies, because "people do not want to run their own servers" (Marlinspike, 2022). The software engineer Molly White maintains a widely read catalogue, *Web3 Is Going Just Great*, documenting hacks, scams, and collapses in the space (White, n.d.). For these observers, the honest definition of Web3 must include its failures, not only its aspirations.

The table below summarises how the same five-letter word fractures across these communities.

Speaker	What "Web3" primarily means to them	Their stake
Engineers/inventors	A specific technical architecture for trust-minimised applications	Building working systems
Entrepreneurs/investors	The "ownership" era of the internet; an opportunity	Returns on investment
Privacy advocates/ideologues	The latest stage of the cypherpunk project	Autonomy from states and corporations
Marketers	A brand promising the future	Selling products
Critics	A pattern of hype, recentralization, and fraud	Protecting the public from harm

No single one of these is "the" correct meaning. Each captures something real. The task of a careful examination is to hold all five in view at once.

1.3 What "definitional contestation" means and why it is not unusual

The situation just described has a name in the study of language and politics: **definitional contestation**. A contested term is one whose very meaning is the subject of ongoing, principled disagreement, because to define it is already to take a position on a value-laden question.

> ***In plain terms:*** *Some words are contested not because people are confused but because defining the word is itself an argument. To say what "democracy" or "art" or "freedom" means is to stake a claim about what matters. "Web3" has become a word like that.*

This is worth dwelling on because it dissolves a common misunderstanding. Newcomers to the subject often assume that the confusion around Web3 is a temporary fog that the right expert could burn off in a sentence or two. It is not. The confusion is structural. The reason is that the word bundles together a *descriptive* claim ("here is a set of technologies that work in a certain way") with a *normative* claim ("and this is how the internet *should* be organised"). Whenever a description and a value-judgement travel together inside one word, defining the word becomes a way of advancing the value-judgement. An enthusiast's definition ("Web3 returns ownership to users") and a critic's definition ("Web3 is a speculative casino in a decentralization costume") are not two reports of the same fact; they are two competing arguments wearing the disguise of definitions.

A useful comparison is the philosopher's notion of an *essentially contested concept* — an idea whose proper application is permanently disputed because it is internally complex and carries built-in standards of value, so that rival users genuinely mean different things while each believing theirs is the real meaning. Web3 has this character. It is internally complex (it bundles cryptography, economics, software, and politics); it is appraisive (calling something "Web3" is usually praise or blame, not neutral labelling); and its boundaries are openly fought over (does a corporate "blockchain" with no public participation count? does a centralized crypto exchange?). Recognising this does not make the question unanswerable. It changes the *kind* of answer we should expect: not a one-line definition, but a map of the territory, the boundaries, and the disputes — which is what this book provides.

1.4 A further trap: three different ideas, one confusing number

Part of the difficulty is a genuine accident of naming. The term *Web3* is constantly confused with two other "next internet" ideas that happen to share its branding but mean something entirely different. Disentangling them is one of the book's deliberate contributions (developed fully in Chapter 27), but the distinction matters from the outset.

The first is the **Semantic Web**, sometimes called "Web 3.0," proposed by the Web's own inventor, Tim Berners-Lee, with James Hendler and Ora Lassila in a 2001 *Scientific American* article. Their vision was an extension of the existing web "in which information is given well-defined meaning, better enabling computers and people to work in cooperation" (Berners-Lee, Hendler, & Lassila, 2001). This is fundamentally a project about making data *machine-readable* — closer to artificial intelligence than to cryptocurrency. It has essentially nothing to do with blockchains.

The second is the **metaverse**, a term coined by the novelist Neal Stephenson in his 1992 science-fiction novel *Snow Crash* to describe an immersive three-dimensional virtual world entered through avatars (Stephenson, 1992). The idea re-entered public consciousness in October 2021 when Facebook renamed itself Meta to signal a strategic bet on such virtual environments (Meta, 2021). The metaverse is about *immersive virtual space*; it is conceptually distinct from both the Semantic Web and blockchain Web3, even though promoters sometimes try to weld them together.

> ***In plain terms:*** *Three completely different visions of "the next internet" have been muddled together largely because two of them carry the number "3.0" and all three get marketed as the future. One is about computers understanding the meaning of data (the Semantic Web). One is about immersive virtual worlds (the metaverse). Only the third — the cryptographic, self-sovereignty-focused project — is what this book means by Web3. Keeping these apart is half the battle.*

It is precisely to mark this distinction that the blockchain community largely settled on the compressed spelling *Web3* (no decimal point), reserving "Web 3.0" for Berners-Lee's older Semantic Web (Wikipedia, Web3, n.d.). This book follows that convention throughout: *Web3* means the blockchain-based project; *Web 3.0* means the Semantic Web.

1.5 The book's thesis, stated plainly

Having insisted that no one-line definition will do, the book nonetheless owes the reader a clear statement of its own considered position. It is this:

> ***Web3 is best understood not as a single technology, nor as a finished product, but as a contested socio-technical project: a cryptographic re-architecture of the web — built on applied cryptography (digital signatures, cryptographic hashing, zero-knowledge proofs, and secure computation) together with decentralized infrastructure, of which the blockchain is the usual but not the only coordination layer — animated by the goal of self-sovereignty: that individuals should control their own identity, data, and value, under rules that are verifiable rather than merely trusted. In its most ambitious form it proposes that not only individuals but entire organizations can operate online as autonomous, trust-minimised protocols rather than as institutions one must take on faith. Following its originator, Gavin Wood, its watchword is "less trust, more truth."***

Each part of that sentence is chosen with care, and the rest of the book is, in effect, an extended defence and qualification of it.

Note what this framing does *not* say. It does not reduce Web3 to "blockchain," because the blockchain is one component of a larger cryptographic toolkit rather than the whole of it. The advanced cryptography examined in Chapter 9 — zero-knowledge proofs, secure multi-party computation, threshold signatures — is increasingly constitutive of Web3, and several of these tools deliver self-sovereignty and privacy with little or no blockchain at all. Nor does it treat "ownership" as merely one feature among many; ownership is one expression of the deeper animating goal, which Wood frames as *self-sovereignty*. Web3's distinctive wager is that the rules governing your identity, data, and value can be made *verifiable* — enforced by mathematics and code — rather than left to faith in a company or a state. This is the sense in which Wood, looking back on the term he coined, names "privacy, self-sovereignty and transparency" as what Web3 is

about, and contrasts Web3's "less trust, more truth" with what he sees as the opposite tendency elsewhere in technology (Wood, as reported in Wood, 2022).

To call Web3 a **socio-technical project** is to insist that it is two things glued together and cannot be understood as either alone. The *technical* half is real and specific: cryptography, digital signatures, blockchains, smart contracts, tokens, and the rest, examined in Part III and Part IV. The *social* half is equally real: a set of beliefs about power, trust, privacy, and self-sovereignty, examined in Part V. The central analytical mistake made by both boosters and detractors, the book argues, is to collapse these two halves — to treat a critique of the ideology as if it refuted the technology, or to treat a working piece of technology as if it validated the ideology. A digital signature is a piece of mathematics; "individuals should control their own identity, data, and value" is a political aspiration. They are bundled together in the word *Web3*, but they are not the same kind of claim, and they can succeed or fail independently. The most ambitious version of the social claim — that an *entire organization*, its rules, treasury, and governance, can live online as a trust-minimised protocol rather than as an institution taken on faith — is the subject of Chapter 21, and the book treats this "organization-as-protocol" as Web3's most consequential leap.

> ***In plain terms:*** *This book's answer is that Web3 is an attempt to rebuild the web on cryptography so that you, not a platform, control your identity, your data, and your money — under rules a computer can check rather than a company you have to trust. Blockchains are the most familiar tool for this, but not the only one, and the boldest version of the idea is that even a whole organization could run as verifiable code. Wrapped around the technology is a set of political beliefs about how the internet ought to work, and much of the confusion comes from people mistaking one half of the package for the whole.*

To call the project **contested** is to carry forward the point of Section 1.3: the bundle is disputed both from outside (critics who think the whole thing is overhyped or harmful) and from inside (proponents who disagree about what truly counts). To call it a **cryptographic re-architecture of the web** is to

locate Web3 historically, as the latest move in a long argument about how the internet should be organised — an argument the book traces from the Web's static early days (Web 1.0), through the platform-dominated present (Web 2.0) and its discontents, to the present moment (Part II) — and to be precise about the means: not a redecoration of the existing web but a rebuilding of its trust assumptions on cryptographic foundations.

Crucially, stating this thesis is not the same as endorsing it. The book's claim is *analytical*, not *promotional*: it claims that this is the most accurate way to *describe* what Web3 is, not that Web3 will succeed or that its promises are true. Web3 is, in this telling, partly real, partly aspirational, and partly hype, and its ultimate character is not yet settled. Self-sovereignty and the "organization-as-protocol" in particular remain largely aspirational in practice — administrator keys, multisignature controls, off-chain governance, and the sheer usability burden of self-custody mean the ideal and the reality still diverge (Chapters 29 and 32). Whether the cryptography works as advertised, whether decentralization survives contact with reality, and whether self-sovereignty turns out to mean anything substantive — these are open empirical questions the later chapters examine with, the author hopes, an even hand. Wood's vision is presented here as the project's animating ideal, tested against the evidence elsewhere, not accepted as an accomplished fact.

1.6 Why this should matter to you

A reader with no intention of ever using this technology might reasonably ask why any of it deserves their attention. There are at least four reasons, none of which require the reader to find blockchains intrinsically interesting.

First, **money and law are involved at scale.** Whatever one thinks of cryptocurrencies, very large sums of real money have flowed into and out of this space, fortunes have been made and lost, and governments around the world are now writing laws to govern it (the subject of Chapter 31). Policy is being made; citizens vote for the people making it. Understanding what is actually being regulated is a civic competence, not a hobbyist's indulgence.

Second, **the underlying grievance is one almost everyone shares.** Web3's emotional force comes from a widespread and well-documented unease about the current internet: that a few enormous companies surveil their users, monetise their personal data, and exercise enormous unaccountable power. The scholar Shoshana Zuboff named this arrangement "surveillance capitalism," a logic that "unilaterally claims human experience as free raw material" for commercial use (Zuboff, 2019). Web3 presents itself as an answer to that grievance. Even a reader who suspects the answer is wrong has a stake in understanding a proposed solution to a problem that affects their daily life.

Third, **the rhetoric is everywhere, and much of it is designed to persuade rather than inform.** Terms like "decentralized," "trustless," and "ownership" are deployed in advertising, in news coverage, and in political debate, often with their meanings quietly stretched or inverted. A reader equipped to tell a precise claim from a marketing slogan is harder to mislead — whether the misleading comes from a promoter overselling a token or from a critic dismissing a genuine innovation.

> ***In plain terms:*** *You do not need to want to buy cryptocurrency to have a stake in this. Real money and new laws are involved; the complaint that motivates Web3 — that a handful of companies own too much of our online lives — is one most people feel; and the persuasive language around it is everywhere. Being able to read that language critically is a form of self-defence.*

Fourth, and most generally, **Web3 is a case study in how technological promises are made, marketed, and tested against reality.** The patterns visible here — a genuine technical innovation, an idealistic story attached to it, a wave of investment and hype, a backlash, and a slow sorting of substance from froth — recur across many technologies, artificial intelligence very much included. Learning to think clearly about Web3 is practice for thinking clearly about the next contested technology, and the one after that.

1.7 What this book will and will not do

Intellectual honesty requires stating the boundaries of the project at the outset.

This book will offer a rigorous, fully cited, but deliberately accessible examination of Web3 as a socio-technical project. It will define every technical term in plain language before using it, and explain the genuine engineering — cryptography, blockchains, consensus, smart contracts, tokens — in words a non-specialist can follow (Part III and Part IV). It will trace the historical and intellectual origins of the idea (Part II), articulate and disambiguate the competing definitions (Part V), survey real applications and the evidence for and against them (Part VI), and reach a considered overall judgement (Part VII). Throughout, it will present the strongest available version of *both* the proponents' and the critics' cases, marking hype as hype, genuine innovation as genuine innovation, and open questions as open.

This book will not offer financial advice of any kind. Tokens, cryptocurrencies, and decentralized finance are discussed here strictly as objects of analysis, never as investment recommendations; nothing in these pages should be read as a suggestion to buy, sell, or hold anything. Nor is this book a how-to manual: it explains how the technologies work in principle, not how to operate a wallet or deploy a contract. It is not a work of advocacy — it neither sells Web3 nor seeks to bury it. And it does not claim to predict the future: where the evidence is genuinely unsettled, the book says so rather than manufacturing false certainty (Chapter 33 is devoted precisely to separating what can be claimed from what cannot).

A final note on stance. The author's commitment is to even-handedness, which is not the same as neutrality-by-evasion. Even-handedness means giving each position its fairest hearing and then following the evidence; it does not mean refusing to reach conclusions. Where the evidence supports a critic, the book will say so; where it vindicates a proponent, likewise. The goal is a reader who, at the end, can give *their own* answer to "What is Web3?" — better informed, more precise, and harder to fool.

1.8 A roadmap: the seven parts

The book is organised into seven parts, which together move from framing, through foundations, to definition, evidence, and judgement.

Part I — The Question and Its Framing (Chapters 1–2) sets up the inquiry. This introduction states the problem and the thesis; Chapter 2 offers a primer on computers, networks, and software for readers who want the groundwork before the technical chapters.

Part II — Historical and Conceptual Genesis (Chapters 3–7) tells the story of how we got here: the origins of the internet and the Web, the static "read" era of Web 1.0, the platform-driven "read–write" era of Web 2.0, the discontents of that era (surveillance, centralization, the data question), and the precise etymology and intellectual history of the word *Web3* itself.

Part III — Technical Foundations, Explained Accessibly (Chapters 8–15) builds the machinery in plain language: cryptography (hashing, keys, digital signatures); the advanced cryptography — zero-knowledge proofs, secure computation, and the privacy frontier — that increasingly defines Web3 and reveals it to be a *cryptographic* re-architecture of the web rather than merely a "blockchain" one; distributed systems and the problem of agreeing without a central authority; the blockchain itself; Bitcoin as its first working application; Ethereum and smart contracts; the consensus mechanisms that keep these systems honest; and the efforts to make them faster and interconnected.

Part IV — The Components of Web3 (Chapters 16–24) examines the building blocks users actually encounter: tokens and stablecoins, non-fungible tokens (NFTs) and digital ownership, wallets and self-custody, decentralized finance (DeFi), decentralized autonomous organizations (DAOs), the way these combine so that an *entire organization* can exist online as a protocol — the "trustless firm," which the book treats as Web3's most consequential leap — decentralized identity, storage and computation, and the "oracles" and "bridges" that connect blockchains to the outside world.

Part V — Defining Web3 (Chapters 25–27) is the analytical heart of the book. It lays out the competing definitions and the "read, write, own" framing, examines

Web3 as an ideology with cypherpunk roots, and carefully disentangles Web3 from the Semantic Web and the metaverse.

Part VI — Applications, Evidence, and Critique (Chapters 28–32) tests the claims against reality: real use cases across finance, art, gaming, identity, and the public sector; the critiques concerning hype, scams, and recentralization; the environmental, economic, and social externalities; the law and regulation; and the security and human risks.

Part VII — Synthesis and Future (Chapters 33–35) draws the threads together: what the evidence can and cannot support, the plausible futures and open research questions, and a final, considered answer to the question at the heart of this book.

1.9 Synthesis

This chapter has argued that "What is Web3?" resists a simple answer for a definite reason: the term is *contested*, used in incompatible ways by engineers, investors, ideologues, marketers, and critics, each with a real stake and a real argument. That contestation is structural rather than temporary, because the word fuses a description of certain technologies with a value-laden vision of how the internet ought to be organised — and to define such a word is already to take sides. The book's own answer treats this honestly: Web3 is a **contested socio-technical project**, a *cryptographic re-architecture of the web* — applied cryptography plus decentralized infrastructure, of which the blockchain is the usual but not the only layer — animated by the goal of *self-sovereignty*, the idea that individuals, and in the boldest version entire organizations, should control identity, data, and value under rules that are verifiable rather than merely trusted. Following Wood, its watchword is "less trust, more truth." That answer is analytical, not promotional; it describes what Web3 *is* without prejudging whether it will work.

The chapters that follow build the evidence for, the qualifications to, and the critiques of this definition, always returning to the same governing question. We begin, in Chapter 2, with a plain-language primer on computers, networks, and

software, so that no later chapter assumes knowledge the reader has not been given.

References cited in this chapter

Berners-Lee, T., Hendler, J., & Lassila, O. (2001, May). The Semantic Web. *Scientific American, 284*(5), 34–43. https://www.scientificamerican.com/article/the-semantic-web/

Wood, G. (2022, April 20). *What is 'Web3'? Gavin Wood, who coined the term in 2014, explains his vision* [Interview by R. Browne]. CNBC. https://www.cnbc.com/2022/04/20/what-is-web3-gavin-wood-who-invented-the-word-gives-his-vision.html

Diehl, S. (2021, December 4). *Web3 is bullshit* [Blog post]. Stephen Diehl. https://www.stephendiehl.com/blog/web3-bullshit.html

Dixon, C. (2024). *Read write own: Building the next era of the internet*. Random House.

Hughes, E. (1993, March 9). *A cypherpunk's manifesto*. https://www.activism.net/cypherpunk/manifesto.html

Marlinspike, M. (2022, January 7). *My first impressions of web3* [Blog post]. Moxie.org. https://moxie.org/2022/01/07/web3-first-impressions.html

Meta. (2021, October 28). *The Facebook company is now Meta*. https://about.fb.com/news/2021/10/facebook-company-is-now-meta/

Stephenson, N. (1992). *Snow crash*. Bantam Books.

White, M. (n.d.). *Web3 is going just great*. Retrieved June 2026, from https://www.web3isgoinggreat.com/

Wikipedia contributors. (n.d.). *Web3*. Wikipedia. Retrieved June 2026, from https://en.wikipedia.org/wiki/Web3

Wood, G. (2014, April 17). *ĐApps: What Web 3.0 looks like* [Blog post]. Insights into a Modern World. https://gavwood.com/dappsweb3.html

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. PublicAffairs.

End of the Free Sample

Thank you for reading the opening of *The Web3 Book*.

The complete book continues for **34 more chapters** across seven parts — from how the internet and the Web actually work, through cryptography, blockchains, Bitcoin and Ethereum, tokens, NFTs, DeFi, DAOs, and the "trustless firm," to the definitions, critiques, regulation, and a final, considered answer to the question *What is Web3?*

It is written in the same plain language you have just read, with every technical term defined and every claim weighed against the evidence.

Get the full book to keep reading.