Why a book on Regenerative CryptoEconomics? Why now?

If you can look beyond the attention-grabbing headlines about NFTS, DEFI, and price volatility, you will glimpse foundational changes to how humanity coordinates.

The internet (1990s - present) changed everything in society that relies on information because computers could now send information across a network without an intermediary. Everything that relied upon information (media, entertainment, politics, news) changed drastically as a result.

The internet of value (2009 - present) could change everything in society that relies on value. Computers can now send value across a network without an intermediary. Anything that relies on value transfer (finance, art, gaming, work, public goods funding) could change drastically as a result.

The introduction of web3-era tools like blockchains have endowed humanity with a global, transparent, incorruptable, programmable substrate for human coordination. On this coordination substrate, access is equal, the tools are available for free as open source software. Anyone anywhere can build the next big thing. This is our moment to build a fairer, more regenerative, financial infrastructure for the world. Our weapon of choice is novel mechanism design deployed to decentralized blockchain networks. Our goal is to create human thriving by solving coordination failures. No outcome is preordained - like any technology, cryptoeconomics can be used for common good or personal gain. We must coordinate to leverage our gifts + capitalize on this opportunity for the benefit of humanity at large.

It starts with education. This book is designed to teach the ethos & game theoretic concepts behind regenerative cryptoeconomics to the next generation of dreamers, builders, and internet citizens. From carbon-neutral blockchain networks to global decentralized networks to build & fund public goods, pursuing regenerative cryptoeconomics creates high upside for humanity.
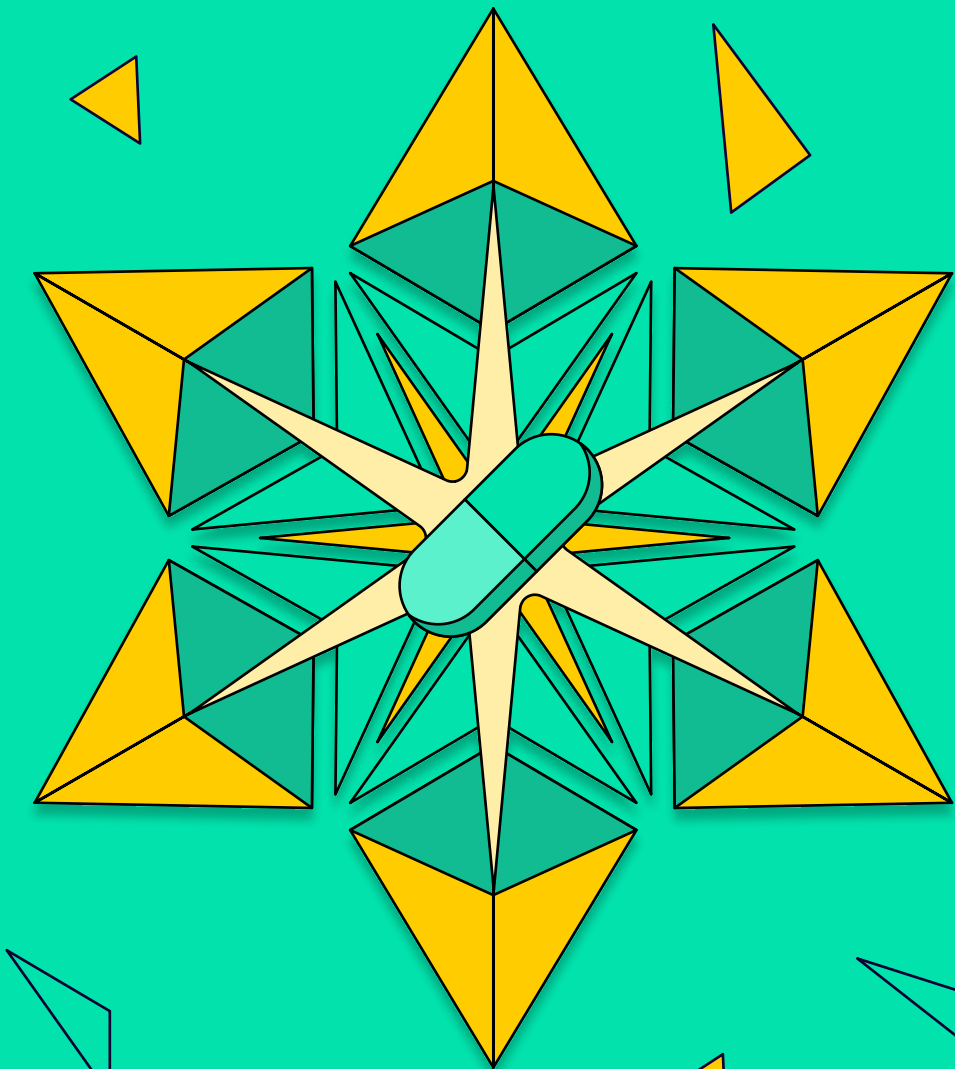
Regenerative CryptoEconomics

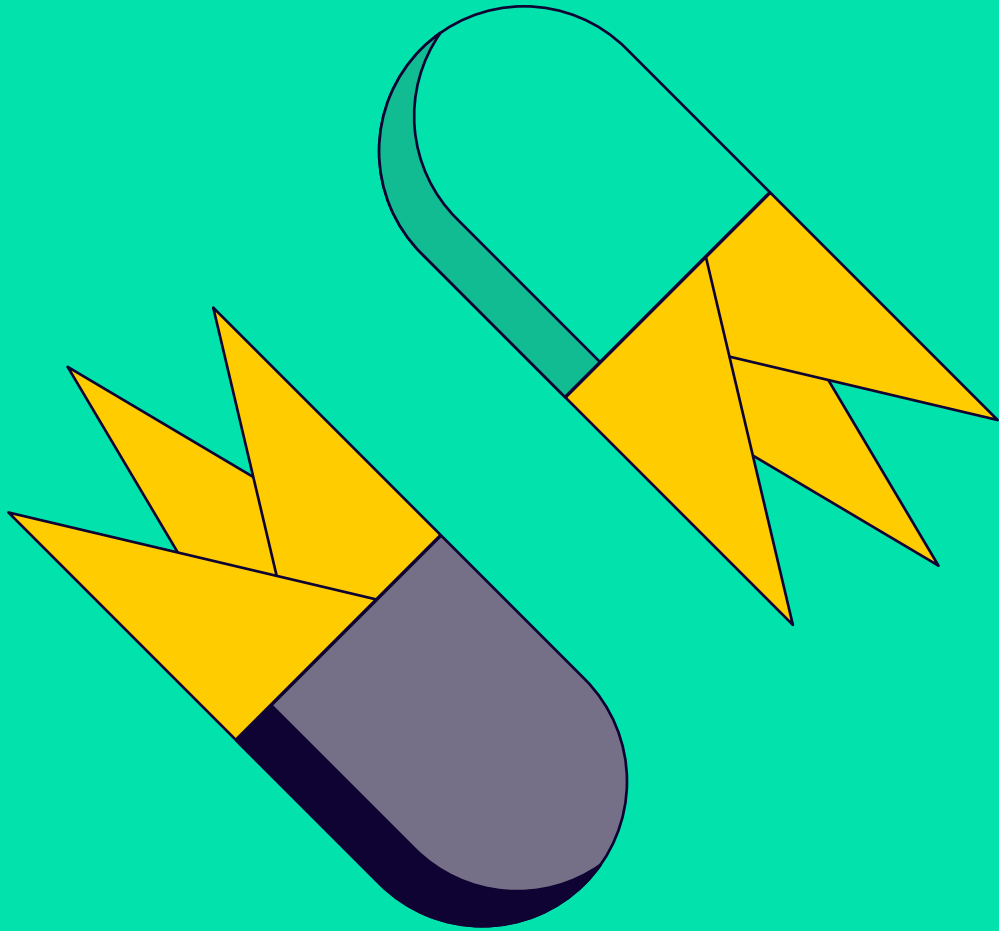GREEN PILLED

GREENPILLED
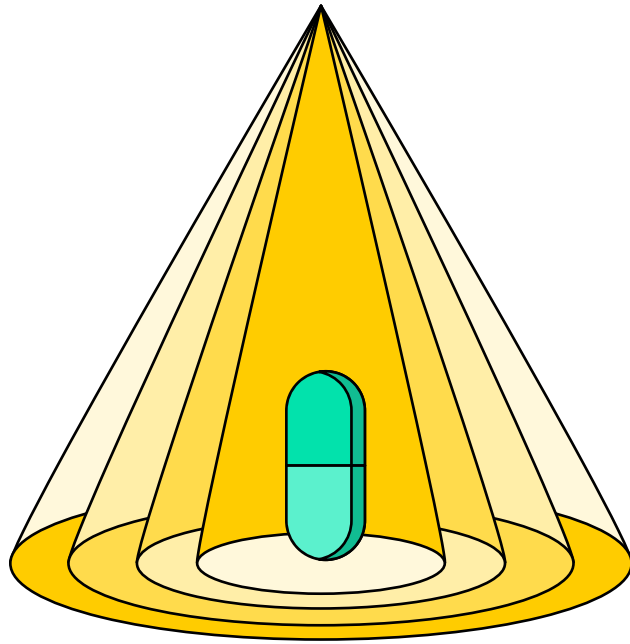## How Crypto Can Regenerate The World

0th Edition

By Kevin Owocki, pixels by Octavian Todirut

Forewords by GitcoinDAO, Glen Weyl, Vitalik Buterin

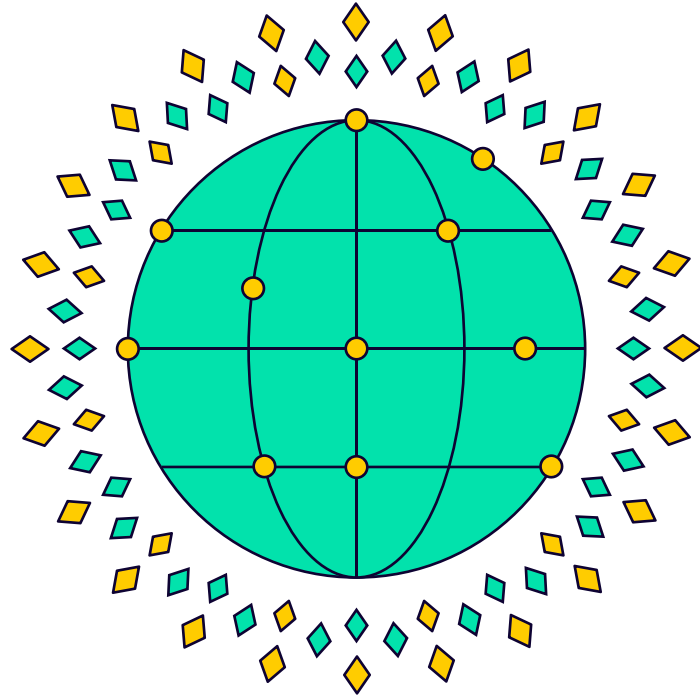*Danny Ryan, Balaji Srinivasan, & More*

Take the Green
Pill, Anon

For Generation Alpha.

May you inherit a world that is better
than the one your grandparents did.

A word from the lawyers

Not financial or tax advice. This book is strictly educational and is not investment advice or a solicitation to buy or sell any assets or to make any financial decisions. This book is not tax advice. Talk to your accountant. Do your own research.
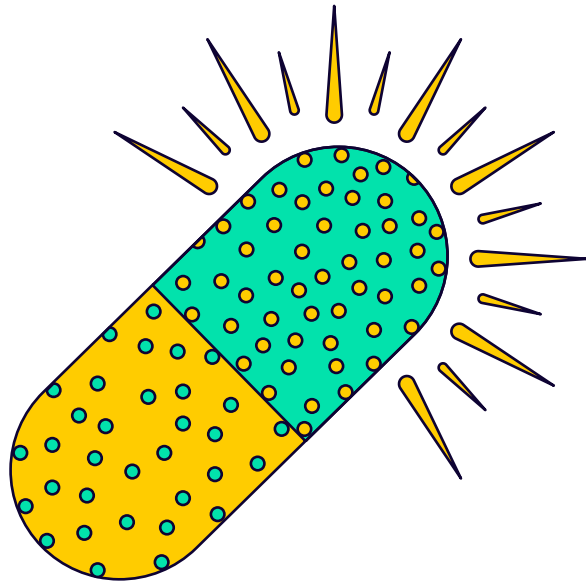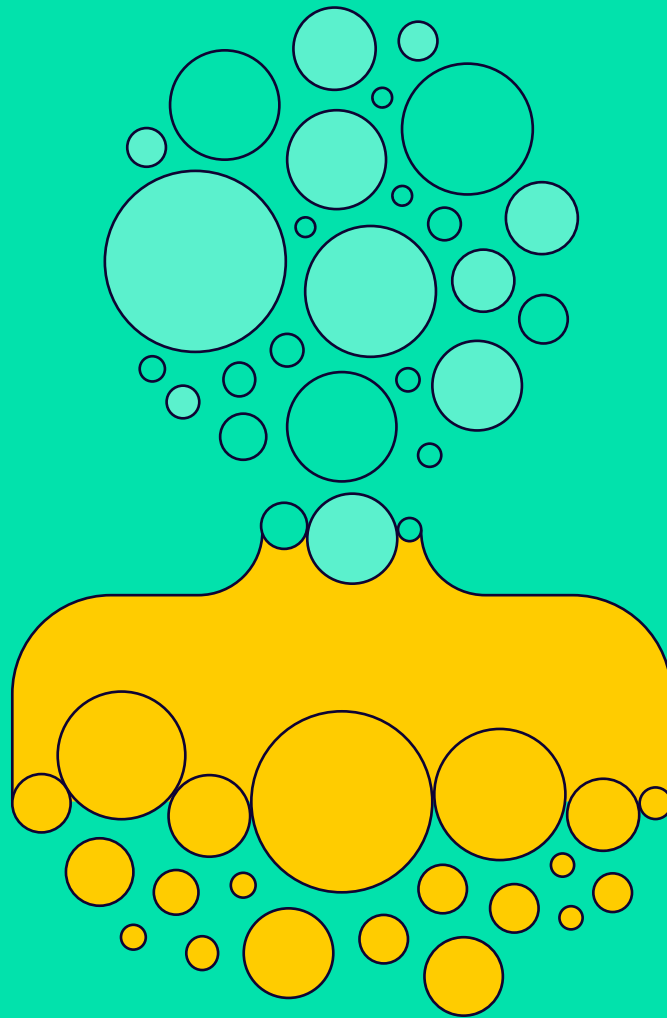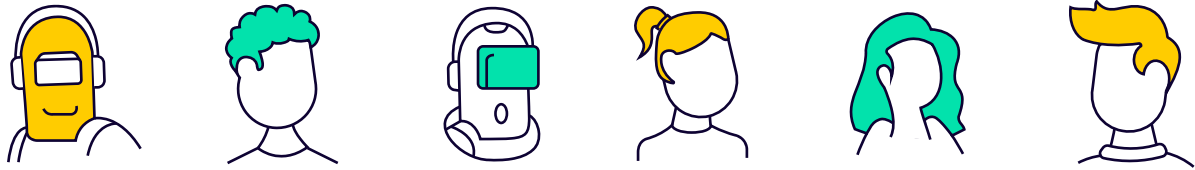
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Forewords from the Frontier

Our vision is to establish an empowering, open and collaborative space where individuals and communities can access resources independent of their geographic location, education, background or offline identity.

By creating collaborative, decentralized funding mechanisms, Gitcoin has become the natural choice for seeding and supporting public goods. The DAO enables building for the public by the public. We help individuals and communities start, fund, and scale open source projects.

We are the EVM whisperers, the DAO cartographers, the internet citizens, and the chaos magicians of the internet of money. We are the schelling point for the hopeful.

We will continue to discover new & innovative ways to solve coordination problems in a DAO-era world. We systematically uncover or invent these mechanisms, and if we're lucky + good, we then scale them.

We are Gitcoin.

BUILT BY THE GITCOIN
COMMUNITY

Austin Griffith

The Quadratic Freelancer

I was stuck writing closed source tools for private companies for a decade. After learning about decentralization and falling down the rabbit hole of smart contracts, I started learning everything I could and I made sure anything I worked on was open source.

To be honest, I probably thought I was going to get rich building blockchain games but it didn't really turn out that way. Instead I fell face first into a rich community and loving ecosystem of Ethereum builders.

I struggled to get funding in the bear market of 2018 and 2019 and was lucky enough to be supported by Gitcoin Grants. Vitalik Buterin called what I was doing a "Quadratic Freelancer" - someone directly working for the public, funded by donations boosted by quadratic matching subsidies.

I earned the equivalent of a full salary building education content, tools, and prototypes on Ethereum. Now I'm reaching a new phase of Regenerative Cryptoeconomics where I'm streaming ETH to builders I'm mentoring!

Danny Ryan

Proof of Stake Ethereum

Ethereum opens up a new realm of human interaction allowing for fundamental shifts in power, value, and organization. This is why I've spent the majority of my waking hours for many years working to improve the Ethereum base-layer, and this is precisely the same reason I'm excited about *Green Pilled*.

The publishing of this book comes at an interesting time in Ethereum's evolution. We are on the cusp of the highly anticipated transition of Ethereum's consensus mechanism – it's heart and soul – from Proof-of-Work to Proof-of-Stake. This upgrade will immediately make Ethereum more secure and environmentally sustainable while improving decentralization so that the platform is neutral and available for all participants, across all contexts.

When evaluating a game – a system of participants, actions, and associated incentives – we commonly assess whether it is positive sum for the immediate players, but we often forget a key player in our assessment – the Earth, the future of humanity. Sadly, many economic games of humanity's past and present have not traditionally accounted for this final player, leading to profoundly negative externalities such as climate change. To make matters worse we are rarely equipped with the tools to understand, or better yet proactively design for, these externalities. Ethereum is slated to become a tool to allow us to better take control of our shared future.

Energy hungry Proof-of-Work set this all in motion, opening up new massively positive sum games, but we can do better. Proof-of-Stake is carbon neutral while simultaneously improving security and decentralization. This has been a long-time coming, but Ethereum is finally ready to make the shift, ensuring that the heart of the platform complements the Green Pilled future we are architecting on top.

Loie Taylor

Blockchains as nations

I'm a believer in the future where blockchains/economies are effectively nations. Not necessarily because it feels right - but it feels likely. Many people already conceive of Ethereum as a nation, but I see it much more broken down. My hope of course is that increasingly, folks of exploited identity groups own their own currency & economies.

So you can imagine a world where if you want some strawberries from a sun-soaked industry where latinx workers tend the crops, you must first purchase their currency. You become a tourist in their nation, which is arranged around shared interest rather than land & military powers.

There's immense benefit to this. Any turn towards justice is based on increasing the agency of the people most closely impacted by an issue. So while a cryptoeconomic future makes you a tourist & having to play by the cultural rules of the true stakeholders in an issue, it also realizes lots of financial dividends for them. When people grouped around a shared interest can be the bank, the lender, the hedge fund, the exchange, the stock issuer & regulator, it is the shared interest itself that benefits from the gains of all those financial activities.

Vitalik Buterin

The Tragedy of the Commons

The vision of collaborative decentralization that guided the original spirit of blockchains like Bitcoin and Ethereum is a compelling and powerful one, but it is also an incomplete one. Blockchains and cryptocurrencies by themselves are designed to support cooperation through private property and markets - tools that works best for one-to-one interactions. Much of what is great about the internet, however, is one-to-many: the very software that blockchains run on, and the academic research and math that makes them work, was written once, and all of humanity can benefit.

Such "public goods" are vulnerable to the tragedy of the commons: because they're available to anyone, including you, regardless of whether or not you personally contribute, it's difficult to motivate people to contribute to them, especially if far more lucrative money-making opportunities are sitting around the corner. Building and sustaining such large-scale public goods well requires new economic models, and even a new culture. Kevin & GitcoinDAO has been at the forefront of thinking through these challenges, and actively deploying and iterating on new ways to bring democratic public goods funding, on the internet and beyond, to life.

Balaji Srinivasan

Crypto-Civilization

Crypto-anarchy sounds cool, but what we actually want is crypto-civilization.

This means having two opposing ideas in mind: that many existing institutions are beyond repair, and that we need new and trustworthy institutions. That's a combination of merited cynicism towards the current system and cautious optimism towards the next one.

Said optimism should be cautious indeed. Existing systems have the implicit wisdom of Chesterton's fence. Even when flawed, there's often a reason they are flawed, as public choice theory explains. Any naive approach may eventually land us in the same pickle, with corrupt institutions characterized by utterance of good intention and substance of bad result.

But what if we put things on-chain? What if we used all the new tools that blockchains provide to produce public goods in an adversarial environment, where all parties know some bad actors will try to game the system, where on-chain actions are finally just as perceptible as digitally signed words, and where we develop explicit metrics for positive-sum outcomes?

That's the promise of regenerative cryptoeconomics. Like renewable energy of the nuclear variety, it helps make crypto sustainable. It's not zero-sum gambling, or negative-sum hacking. It's positive-sum wealth creation. And it's the win and help win of web3.

Griff Green

It's all Coordination

It's all coordination, it always has been. Behind all the number-go-up, number-go-down degen drama on Twitter, the Web3 Regens are steadfast, focused on addressing the systemic root of the major issues that face humanity today: Our failure to coordinate around public goods.

Coordination around individual wants and needs is effortless. Feedback is simple because profit acts as a schelling point. Entrepreneurs can make a business plan, seek investment and if they succeed, everyone involved gets predictably rewarded. This is why we can live in such individual luxury. The coordination required to put a cell phone in so many hands (to pick one of an infinite number of examples) was immense and impactful, yet effortless because everyone who contributed was rewarded along the way.

If you want to create value for society (public goods) - like building open source libraries or stewarding our lakes, rivers and oceans, you have three options: beg, sacrifice or both. Make a roadmap, track your impact, apply for grants, ask for donations, if you succeed, you will get what you need to scrape by. Taxes and donations are the dominant funding streams for satisfying our collective wants and needs. Even though these massive funding streams should be enough to provide abundant public goods for society, they don't because they are difficult to coordinate. Taxes are distributed top-down, making the feedback mechanisms incredibly slow or non-existent. Donations are market feedback, but there is no financial reward for success. In fact, they rely on unsustainable sacrifice from donors, volunteers and everyone else along the way.

Web3 will change this. We are building novel coordination mechanisms to create public goods while rewarding everyone involved. Society has the opportunity to unleash the entrepreneurial spirit into an open landscape of economic potential. We can create economic games that make collective value creation regenerative. Regenerative Cryptoeconomics is Abundance Economics.

Take the green pill, anon.

Abbey Titcomb

A New Hope

As a domain, cryptoeconomics embodies many different alignments. Some would say that its tendencies towards hypercapitalization and gamification are lawful evil. Others would argue they are chaotic good. But then there are those who believe its true good — that its inherent qualities of programmable value, permissionlessness, and censorship resistance beget a path forward for humanity as we seek to solve the global coordination problems that plague us.

These people see an opportunity to reconstruct the systems that control us. To use crypto to design deeply radical socioeconomic futures, where our societal values are not driven by extraction or accumulation, but instead by regeneration and sustainability.

While there is much work needed to achieve these visions, designing and maintaining positive-sum coordination games is a way towards a future of human thriving. This book is a starting point — a quest, maybe — for those who seek to challenge the status quo. It's the seed that will sprout and grow to be the binding force between us as we fight for and build towards a better future.

Regenerative CryptoEconomics is not only coordinating the redistribution of financial capital, but social, intellectual, and cultural capital as well. In their efforts, they've become the stewards & maintainers of a movement — a New Hope™ for public goods, if you will.

Glen Weyl

Towards New Forms
of Governance & Democracy

I am deeply ambivalent about Web 3. Much of the space is dedicated to tearing down social institutions that have been central to supporting the development of complexity and protecting the vulnerable, all the vainglorious hope of replacing them with some speculative and highly simplistic new market-driven coordination on blockchains. Simple capitalist markets cannot either the support ambitious technology development or decentralization people in this space aspire to, as they can only organize scale through monopoly. If we want to escape from the trap of building institutions intended for decentralization only to see them immediately captured again by monopolies, we need to get beyond such simplistic thinking and build regenerative institutions that support public goods and increasing returns technology

Yet at its best, Web 3 can be one of the most creative and exciting places in the world for imagining these new forms governance and democracy that can allow people to connect, protect their common interests and build extraordinary new social fabric beyond the constraints of geography and history. Today's world has global interconnections and local communities in patterns that could not have been anticipated by the founders of today's democratic nations and we need a new substrate to make this kind of dynamic democratic governance possible; this is precisely what regenerative cryptoeconomics is about. Kevin Owocki has pioneered this space and has done a great job of capturing both its ideas and culture in this book, one that I suspect will be a shining beacon in coming years as the many who are both thrilled at the potential of the space and terrified by its darker manifestations seek to find a path forward. I look forward to continuing to work closely with him and seeing the next steps of social innovation he and the broader regenerative Web 3 ecosystem will help imagine.

Chapter 0
Introduction

"My existence is not to become a minister for a certain group, nor to broadcast government propaganda. Instead, it is to become a 'channel' to allow greater combinations of intelligence and strength to come together."

-- Audrey Tang
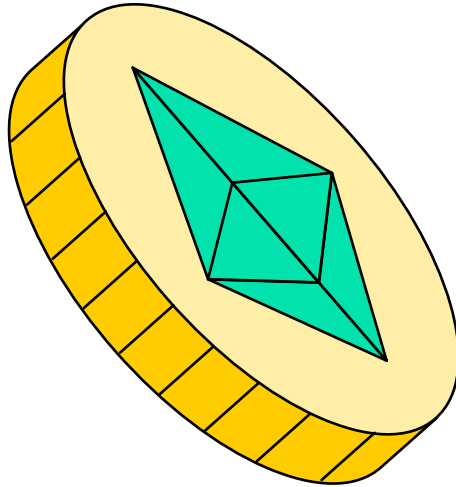
What is Cryptoeconomics?

Cryptoeconomics is the use of blockchain-based incentives to design new kinds of systems, applications, or networks.

Cryptoeconomics brings together the fields of economics, game theory, psycology, and computer science & leverages them in the creation of decentralized marketplaces & applications.

By focusing on the individual decision making & strategic interaction between different participants in a digital ecosystem, and by viewing them through the lenses of game theory + mechanism design, we can discover powerful new ways to fund, design, develop and market applications and digital assets.

Study of Cryptoeconomics Systems is an inherently multidisciplinary pursuit.
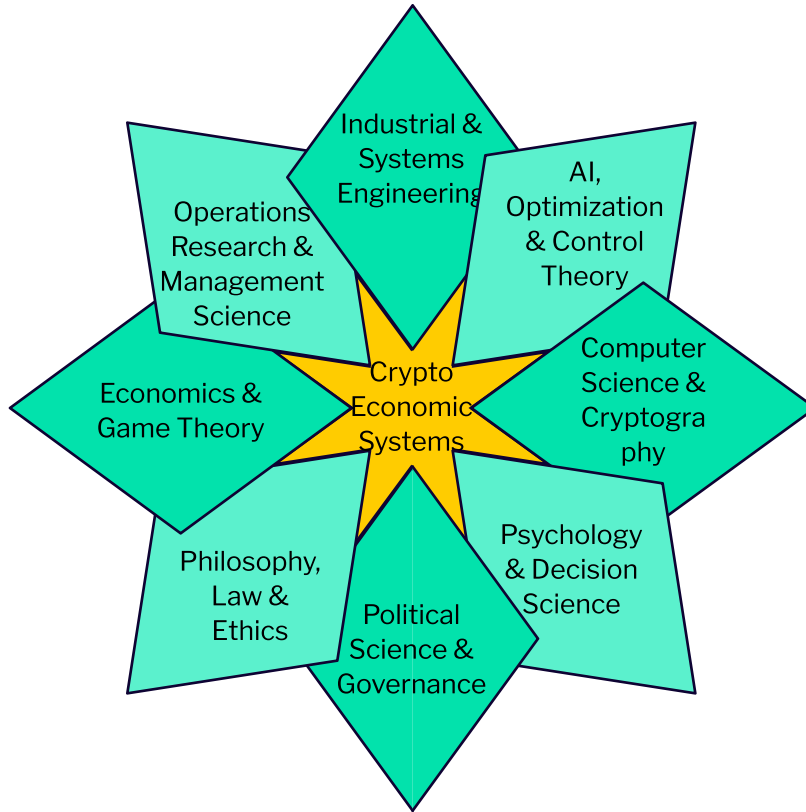
Study of Cryptoeconomics Systems is a subset of the study of other types of systems.
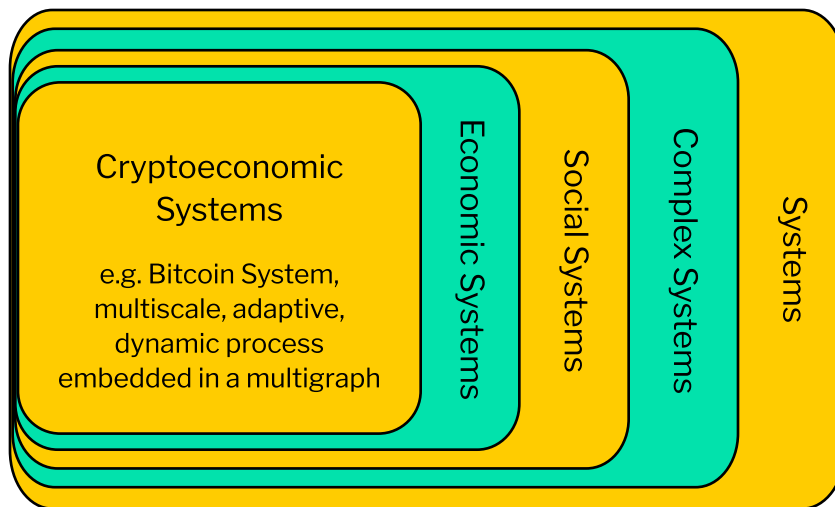

Credit for these diagrams - Foundations of Cryptoeconomic Systems - Michael Zargam et all

What is Regenerative Cryptoeconomics?

This book is about cryptoeconomic systems that
  1. satisfy human needs.
  2. create positive externalities (& are net positive).
  3. create balance (& find equilibrium).

Regenerative Cryptoeconomic systems have resisted formalizations in the past due to the difficulty in doing so. Where possible, we attempt to overcome this challenge by focusing on theories of human systems that are widely accepted, complementary, or global in scope.
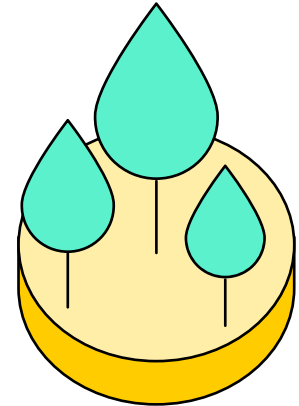
That said - there are real contradictions in the emerging design space of Regenerative CryptoEconomics. There are tradeoffs to be made & there are members of this space that disagree with each other. We advocate a pragmatic approach that measures results, respects nuance, & thoughtfully weighs tradeoffs.

First, Do No Harm
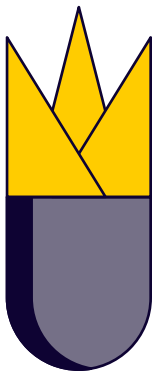
The world is presently embroiled in a debate about the energy usage of Proof-of-Work blockchain systems like Bitcoin. Proof of Work apologists have presented many claims that Bitcoin uses primarily renewable energy, but until there is independently verified evidence, these claims shoulid be treated as spurious. The carbon impact of the Bitcoin and other Proof-of-Work blockchains is likely both large & profoundly negative until proven otherwise.

Regenerative CryptoEconomics systems are systems that are net-positive, and because of that, this book focuses on blockchain ecosystems that consume 99.99% less energy per transaction than BItcoin or Proof-of-work era Ethereum.

Luckily, there are many 2nd-generation and 3rd-generation blockchains that fit this criteria. From this foundation of near-carbon-neutrality, it is possible to create cryptoeconomic systems that are extremely net-positive.

Applied Regenerative CryptoEconomics

Regenerative Cryptoeconomics is a subset of Cryptoeconomics, which is itself is a subset of economics, which itself is a subset of the study of social systems.

We are standing on the shoulders of giants in web3. In this sense, we are interpreting this web3 wave of actors as more of an expression of a historically embedded process than anything novel in itself.

For this reason, this book focuses mostly on Applied Regenerative Cryptoeconomics and on making the subject matter understandable to a more general audience.

In doing so, we would like to acknowledge the influences who have enabled us to understand the design space + have inspired us in our own journey.

Influences

Projects who have inspired us along the way, in randomized order: Radicle, DoingGud, Dev Protocol, Regen Network, BlockScience, Giveth, Commons Stack, TEC, SourceCred, Codefund, Open Collective, MetaGame, KERNEL, Zcash Major Grants, the MetaCartel ecosystem, Satoshi Nakamoto, CLRFund, MakerDAO, ETHGlobal, Toucan Protocol, Kolektivo, Astral Protocol, Celo, Zcash, Curve Labs, Bankless, Govrn, RadXChange, 1Hive, SporkDAO, Rainbow Rolls, Panvala, ENS, India COVID Relief, Simona Pop, Ethereum Foundation, Deep Adaptation forum, Collapseology, Donut Economics Lab, regenerative leadership groups, MacArthur foundation, & many many others.
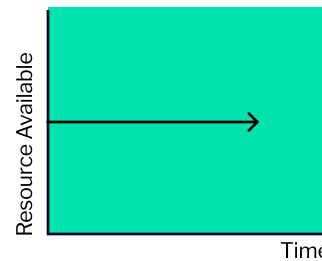
Resource consumption types

As we define Regenerative Cryptoeconomics around what it is, we should also define it relative to what it is not.

Regenerative Cryptoeconomics can sometimes be resilient or sustainable, but it can not be extractive.
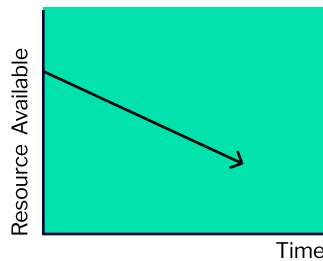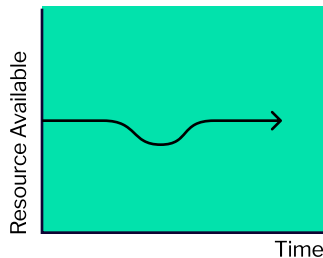
Extractive

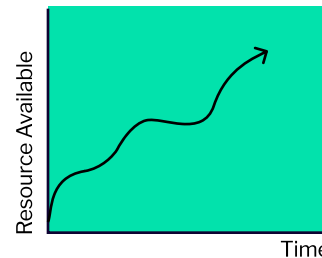The resource is depleted and the system loses capacity over time.

Sustainable

The resource availability is not depleted over time and the system is steady.

Resilient

The system is able to recover from a period of shock.

Regenerative

The resources are regenerated & builds capacity sustainably, while being resilient to shocks.

Thanks for Amentum for the inspiration for these excellent graphics: *https://medium.com/amentum/from-walled-gardens-to-community-gardens-c58aca89566a*

You have reached the end of the Preview Edition

To download the full book, go to https://greenpill.party

greenpill.

party