Abundance or Collapse

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It is advised that the reader first obtain the book or the synopsis for 'Stellar: A World Beyond Limits'. This is a year old and gives a much fuller description of society and how it is likely to change than does 'Abundance or Collapse'. Abundance or Collapse needed to be written because the AI change has come much faster than anticipated and is already seriously affecting job growth and social structure, along with a tremendous requirement for energy.

We are near a 'fork in the road' of our civilization. One way leads to abundance and the other leads to collapse and a probable autocratic society. This book describes what is coming, but how we handle the changes ahead will determine our destination.

These changes revolve around AI, robotics, and energy. These three separate technologies are linked together and form a reinforcing cycle that has already begun spinning.

Part 1 examines the technologies themselves; Part 2 looks at the disruption and who wins and who loses; Part 3 is about opportunity and how to look at the world.

Part 1: What's Coming

Chapter 1: The Convergence

AI, robotics, and energy together are powerful enough to yield either a world where scarcity fades, basic needs become trivially cheap, and human potential is amplified - or - our societies can be torn apart, power is concentrated, and people feel useless in a system that has no use for them.

This linking of AI, robotics, and energy the author has called the Convergence.

- What is AI actually good for?
    - Training AI neural networks requires massive amounts of compute and compute requires massive amounts of energy.
    - More compute = smarter AI = the better it gets at optimizing energy systems, manufacturing robots, and making everything more efficient.
- Add robots to the equation
    - Robots are essentially AI that can touch the physical world.
    - Robots need cheap manufacturing to deploy at scale, reliable power to run, and intelligence to actually do useful things, i.e. the AI that is getting smarter every day.
- Energy is what makes everything run
    - Energy infrastructure is increasingly optimized by AI and will eventually be installed and maintained by robots.
    - Soon most AI systems will reside in space.

The key to this system is that it can improve and repair itself (a flywheel) because AI can replace human judgment. AI makes robots smarter; smarter robots deploy energy infrastructure faster and cheaper; more energy powers more AI development.

Most analysis is analogical: One thing is like another, so improvement is a mater of making that thing more efficient. However, first principle thinking is breaking down problems to their fundamental truths and build up from there.

- What is the fundamental constraint on AI development? Compute, which requires energy.
- What is the fundamental constraint on robotics? Manufacturing at scale and intelligence, which AI helps address.
- What is the fundamental constraint on energy abundance? Cost and installation, both of which robotics addresses.

Timeline: We tend to think linearly when projecting into the future, but problem solutions are happening on an exponential scale. Think months and years, not decades for change to occur.

The Convergence is not based on any one company and the 'flywheel' is already spinning, creating a system already in motion, not in the future.

If all the fundamental constraints that have shaped human civilization - scarcity of labor, intelligence, and energy - start to relax, then prices for things collapses (deflation) and abundance becomes possible for everyone, but our social and economic models fail.

- The same technologies that enable abundance force displacement and shatter social hierarchies. The technology is neither good or bad, but it is a forcing function.
- We will need to address questions about economics and society that we have avoided because scarcity provided its own cruel logic for who gets what.

It is no longer up to us to decide if this is what we want to happen. We need to decide on what happens after this change occurs and how we are going to get through the transition.

- How do we structure society when the fundamental relationship between work and survival has changed?
- How do we distribute the benefits of abundance?
- How do we help people find meaning when traditional employment isn't the organizing principle of their lives?

The next 1-5 years is going to be extremely rocky.

Chapter 2: Full Self-Driving (FSD) and the Death of Human Drivers

FSD is the proof of the Convergence thesis.

- AI is replacing human labor at scale - already available with billions of miles driven over a neural network.
- Vision requirement doesn't require mapping, but uses the neural network to learn how to drive.
- A neural network learns like humans, but this knowledge is updated across all vehicles accessing the same software.
- Existing cars are participating today (supervised and unsupervised) using existing software.
- Purpose-built Cybercab is cheaper to buy and operate than owning any other type of car.
- This method saves lives and reduces maintenance and insurance costs.

Chapter 3: Optimus and the $40 Trillion Labor Market

Humanoid robots will do the work of humans.

The AI starts with FSD and high scale manufacturing of robots. Vertical integration allows Tesla to innovate quickly and respond to issues across both robots and vehicles.

- Scale across both vehicles and robots allows AI to learn quickly.

Robot cost starts at $20,000-30,000 each and will replace more than a single human. Companies not using robots will be unable to compete.

- Distribution - grabbing packages
- Agriculture - picking crops
- Construction - carry items, assembly, cleanup
- Healthcare - physically caring for patients
- Robots-as-a-service - renting out robots like contracting out labor
- Insurance implications - much cheaper to fix or replace

Chapter 4: Energy Abundance - The Forgotten Third Leg

A single data center training a large language model AI can consume as much energy as a small city.

Currently we build power plants to handle peak demand because energy has no 'memory' and disappears if not immediately used. Batteries solve this problem by storing energy - if they are large enough.

The gross margin on the energy business is twice that of the auto industry (31% vs 16%).

Wright's Law: Cost declines predictably as cumulative production increases. Lithium-ion batteries = 20-30% reduction for every doubling of cumulative production, i.e. as battery costs come down, the economics of grid storage becomes overwhelming. Lower costs = more storage = more & cheaper energy = more AI = still better storage technology.

The barrier to all this in the US is politics (NIMBYism). Nuclear plant construction takes 15-20 years to build and we don't have that much time to react to current changes, regardless of your feeling about nuclear energy.

Linking solar powered homes together (San Diego, CA) creates a virtual power plant and provides emergency power to the grid at peak usage times.

The sun delivers more energy to the earth in an hour than we use in a year.

AI companies are becoming energy companies to insure their own survival.

The long-term solution to AI energy needs is using space satellites to process the sun's energy 24/7. Run the compute in space and transmit the results back to earth.

- At $10/kilo to orbit the cost of using space is approximately the cost of air freight today. Starlink satellites have already proven the economic viability of using space and they will soon replace earthbound cell towers with direct contact to cell phones anywhere on earth.
- Cooling data centers in space is greatly helped because the environment is very cold to begin with. Robots will man these space stations as necessary.
- The political obstacle is the vested interests in the energy space - oil & gas, utility companies, environmental movements fighting everything. China is in a better position to move quickly and is doing so now.

The US power grid was designed for the centralized power of utility companies - not distributed power.

- Upgrading will require massive investment - another reason AI companies are moving into the energy space.
- The AI revolution is more likely to be constrained by energy availability than by technology.

We have the technology; we have the economics; we have the need. What we lack is the political will.

Part 2: The Stakes

Chapter 5 - The Barbell - Top 20%, Bottom 20%, Crushed Middle 60%

The top 20% will be able to invest in and work with AI, if they choose to. Today these people hire others to do things; tomorrow they will us AI. AI is a force multiplier in a way that people cannot be and at a far cheaper price.

AI, robotics, and cheap energy will deliver abundance at scale to people who previously couldn't afford, or didn't have access to, these services - the bottom 20%.

The middle 60% of people will be economically, psychologically, and socially squeezed in a way not seen since the Great Depression. People who work jobs, pay mortgages, raise families, and work for others will find their options vanishing.

- When you learn to work with AI you also learn how to use it better. Since it is available for free, everyone should learn to use it.
- The knowledge gap between those who use AI and those who do not is growing monthly.
- When you live paycheck to paycheck you don't have much time for learning - you must make time.

Energy poverty is much of what limits everything from cooking to education for the bottom 20%. AI and robotics drive the delivery cost down and that technology makes it cheaper to deliver energy to those in need.

- AI, not doctors, will analyze and diagnose disease
- AI & robotics will manage and deliver food to far flung areas
- AI instruction advances education and can be easily customized for language or thinking process
- Energy is distributed via solar & batteries to run far flung households

The middle 60% - people who spend most of their time building on behalf of others to earn a living wage and can't save much.

- If your job is not primarily creative (knowledge workers) or people facing, you will probably be replaced by AI and robotics - AI first within the next five years. Blue collar workers and those whose primary job is to interface with other people probably have more time to plan a change.
- Work is a source of identity, as much as it is income and you are probably not going to find another job in an area where your primary asset is your knowledge or your ability to complete forms.
    - Previous technology changes primarily replaced physical labor or it augmented human capability (machines), but AI replaces human judgment and cognitive decision making - knowledge work. To the extent you are the one directing AI to perform tasks your 'team' used to do, you are probably ok, but your team faces a different problem (tax analysis, law clerks, backroom lawyers).
    - In a world where AI amplifies capability, success aggregates more quickly and fewer winners gain even more. Chinese society is structured for collective adaptation, while the West is optimized for individual autonomy. We may innovate better, but when economic disruption hits, individuals have to figure things out for themselves. This makes the Chinese model better suited to manage this specific type of transition.

The timeline nobody wants to hear

- The pressure on knowledge workers is visible today.
- Within the next 2-5 years this pressure will become acute; not everywhere, but it will become a major political and social issue.
- The barbell is forming, but will it collapse or can we reach a new equilibrium? This is where rereading parts of ‘Stellar: A World Beyond Limits’ might be helpful.

What should we do with this information?

- If you are in the top 20% you need to be deploying capital and AI systems aggressively. Don't wait!
- If you are in the 60%...
    - If your job is about cognitive tasks that AI will soon perform cheaper and faster, you have 2-5 years to re-position yourself, fully embrace AI, or both. Re-positioning means...
        1. Moving toward capital ownership, even in small amounts (spend less than you make).
        2. Developing skills in areas where human judgment and presence remain essential.
        3. Thinking like an entrepreneur.
        4. The social contract that promised stability in exchange for showing up and working is breaking down.

The age of abundance is coming, but the barbell means...

- Some will ride it
- Some will be lifted by it
- Some will be crushed during the transition

Chapter 6 - The Innovator’s Dilemma at Global Scale

Companies die, not because they are stupid, but because the structure of their businesses made it impossible to respond in time. The thing that made them successful became the thing that killed them. This is the innovator's dilemma.

- Kodak invented digital photography, but it also destroyed their film business - so they suppressed it until too late.
- Blockbuster passed on buying Netflix for $50M because it was unproven and they knew and understood the video rental business.

When a new technology emerges the incumbent has a massive customer base, established supply chains, optimized manufacturing, trained workers, an institutional knowledge. Advantages are optimized for the old way of doing things, but the new technology requires all these systems to be disrupted; all while the new technology is still unproven and small. By the time the upstart is no longer small, it is too late. The auto industry and electric cars is the modern day example of this.

How does all this apply to AI-robotics-energy?

- This will be the fastest industrial disruption in history.
    - Not because of technology, but because the advantages of incumbency are smaller than they have ever been.
    - When software becomes the product you do not need buildings, manufacturing, or distribution because your product is delivered over the air.
- Finance is next. When AI can underwrite loans, execute contracts, assess risk, move money what is left for the traditional bank?
- Healthcare diagnosis and treatment protocols are decision trees and admin is workflow management. All are susceptible to AI automation.
- AI provides personalized tutoring for individual learning styles in education.
- Legal services automation by AI eliminates most lawyers and clerks.

One of the things that makes this disruption different is the speed at which it is happening (months not years).

- For incumbents, this speed is fatal.
- Adaptation takes longer than the time remaining before the disruption finally materializes. You cannot catch up to a target that is accelerating away from you.
- In previous technological transitions, timing was important, but not decisive -with AI it is cecisive.
    - AI systems exhibit capability overhang - improvements that happen suddenly
    - By the end of 2026 AI Agents (Claude, ChatGPT, etc) will be one of the most disruptive forces happening - and they only appeared at scale in the middle of 2025.

Recognizing the pattern in industries

- Incumbents will dismiss the upstart
- The transition will be defined
- The upstart will upend the industry faster than the timeline anticipated.

Chapter 7 - US vs China - The Race That Matters

It is extremely important that the US not lose the AI race to China

- AI is not a product, but a force multiplier for whatever system deploys it.
    - AI in a democratic, capitalistic society will be shaped, ideally, by competitive forces, markets, and consumer choice.
    - AI in the hands of an authoritarian regime will be shaped by whatever that regime wants to do.

The Jack Ma lesson

- He built Alibaba into one of the most valuable companies in the world
- He criticized the Chinese financial regulators
    - His IPO was pulled
    - He disappeared for months
    - His influence evaporated
- No on can be more powerful or threaten the Communist Party

- Compare this to Elon Musk in the US (he migrated from South Africa)

In a closed system like China...

- Incentives are warped and assumptions are not challenged - exactly what is needed for a disruptive technology using First Principle thinking.
- In an open system no limits are placed on either ideas or ambition.
- This is why the best AI talent has historically concentrated in the US, not China.

China's Open Source strategy

- This open source AI strategy is designed to weaken the private AI model by robbing it of cash invested for profit.
    - Proprietary models yield profits and are the basis for attracting investment capital.
    - Open-source models are free to all, but attract little investment capital, as there is no profit to be made.
    - Since the Chinese government subsidizes AI development, while retaining control, there is no incentive for outside investment.
    - To the extent that developers use the Chinese model for free, they deprive the proprietary models of their talents and advances, thus adding to the likelihood key developments will be made first in China.

Capitalism drives innovation in a way that central planning cannot. Multiple approaches vs a centralized, planned design.

- When policies don't work in a democracy, they eventually get changed (voted out, new approaches).
- Authoritarian systems can make decisions faster, but their errors can persist because no one is allowed to challenge them.

What America gets wrong

- Bureaucracy tries to maintain the status quo.
- Education prizes rote learning, learning to work in a corporation, rather than to allow thinking 'outside the box'.
- Politics - every issue becomes tribal.
- Short-termism: quarterly earnings is the bane of long-term planning.

Taiwan

- Builds the world's most advanced semiconductors.
- TSMC produces 90% of the top chips in the world, but it building a facility in Arizona.
- China claims it as their territory.

China has access to data about human behavior at a scale that is hard for any single company to match.

Winning means maintaining a measurable lead in AI development, not defeating the other country.

- If the US wins, then the variety of approaches means abundance becomes possible.
- If China wins, then AI becomes a tool of state control over the society.

What should we do?

- Streamline the regulatory environment.
- Massive investment in semiconductor manufacturing and supply chains.
- Recognize China's open-source project for what it is and begin one of our own for developers to work on.
- Elect political leadership that understands technology and can make coherent long-term strategies.
- Actively support more energy development.
- Keep the immigrants we educate here, i.e. stop making it hard for them to stay.

Americas fundamental advantages are not going away - capitalism, democracy, and no ceiling on achievement.

Chapter 8 - What Government Must Do (and Probably Won't)

Ensure that AI benefits don't self-aggregate around a small group of people.

- The government's job is to break the concentration of people with capital surrounding AI development, i.e. make sure we all benefit from the AI data that we all had a part in creating by our monitored actions.
- Slowing down AI development does not address the concentration problem and only makes it more likely that China will gain a commanding lead.
- The real danger isn't that AI will develop too fast, but that it's benefits will concentrate too narrowly.
- Regulation should insure broad access to AI capabilities, i.e. no single entity should corner all AI infrastructure, data, portability requirements, or public investment in open-source research.
- Create a landscape where AI is as accessible and commoditized as bottled water.

Universal Basic Income (UBI)

- The math of AI disruption demands something of this nature.
- AI systems will perform a significant fraction of economically valuable cognitive work.
    - Find a mechanism to distribute economic output or watch a large portion of the population fall out of the economic system entirely, i.e. chaos.
- The transition of the 60% doesn't resolve itself, and some version of a cash floor will be required, along with other solutions.

How do you pay for UBI?

- AI is simultaneously displacing workers and concentrating wealth.
- Changing the tax system.
    - The current tax system is built for a world where most economic value is created by human labor.
    - AI output taxes: Tax AI system outputs.
    - Compute taxes: Tax the computational resources used for AI inference and training.
    - Data Value taxes: The training data was taken from the population at large and they deserve a share of the profits.
    - Robot taxes: The taxes a human would pay for work would be paid by the robot replacing the human.

The education problem

- Most people graduate from school without a fundamental understanding of how capitalism works, i.e. market capitalization divided by shares outstanding.
- American education is designed to create corporate drones, i.e. built to serve the industrial economy, not to think on their own behalf. Classroom rules are the same as on a factory floor.
    - Show up on time
    - Follow instructions
    - Don't question authority
    - Complete assigned tasks
- Why this time is different and these rules will no longer apply.
    - Previous transitions displaced type of work, but cognitive work requirements kept expanding, i.e. thinking, judgment, creativity.
    - AI changes that equation - it takes over much of the thinking, cognitive work, and some judgment - and now where do those people go? How do they retrain a thought pattern they have been brought up with?

    - The AI timeline is expanding in months, not decades, and there is no time to reset.
    - When the car replaced the horse, we simply adjusted to using something different for our transportation, but what if we are the horse? Where do we go then?

Navigating the transition

- Without competent government intervention, we are talking about societal collapse.
- The transition is coming, regardless whether governments handle it well, regardless whether or not there is a safety net.
- Individuals have to build their own position, develop their own capabilities, take responsibility for their own trajectory.
- Don't assume government will handle this well, and position yourself accordingly.

Chapter 9 - The Transition Nobody's Preparing For

This transition is about identity, not efficiency.

- Most jobs describe people's identity and AI can do most people's jobs better and faster than the people can.
    - This entire book was written by AI, with research into 10 years of video podcasts and my written papers. AI learned my voice, my background, my opinions, and my desires. Then it helped me write the finished copy in far less time than I would have taken.
- AI agents (ChatGPT, Gronk, Gemini, Claude) can...
    - Receive a complex goal
    - Break it into sub tasks
    - Execute each sub task
    - Verify its own work
    - Iterate when something fails
    - Complete the entire workflow without human oversight

The opportunity for those who adapt

- People who learn to orchestrate AI agents won't be displaced. A single person with the right agent setup can produce what used to require a team.
- None of what you do replaces your creativity or complex judgment. It amplifies them.
- The AI agent learns your voice, habits, and positions.

The identity crisis

- For a lot of people, work is how they understand themselves.
- When your work is totally replaced, how do you now define yourself?
- People who feel their identity has been stolen are not a stable social foundation.
- When large portions of the population are economically marginalized, while watching a small group thrive, the results are historically predictable, and not good.
- This is why it is so important for the government to act early in this cycle (the cycle cannot be stopped and slowing it down isn't an answer).
- Money may keep people fed and housed, but it doesn't solve the identity crisis.

The window for preparing is now.

- Developing skills takes time.
- Jobs that seemed stable will disappear faster than new ones will appear.
- Entire industries will contract while the new economy is being built.
- Income will become unreliable.
- Gig and contract work will become more dominant.

Part 3: What to Do

Chapter 10 - The Investment Framework

Identifying companies that have the potential for transformational returns over the next 5-10 years.

- Understanding how value gets created and captured matters, regardless of your financial position.

1. Misunderstood by the market: If the market correctly prices in a company's future, there is no opportunity. What does the market think this company is and what do I think it is? If they are the same, there is no edge. You need to explain what aspect of the business the market is mispricing and why.
2. Is the company disrupting a large, legacy industry? The market has to be large enough to be transformational.
3. The company must have 'Rockstar' leadership. Leaders who are charismatic and can attract world-class talent.
4. 10x potential over 5-10 years.

- Must have all four criteria to qualify.
- The education you get going through this analysis can be equal to the possible financial reward. You have both learned a valuable skill and you have developed an attitude of working for yourself, not following orders.

The test of your conviction is not buying, but holding through all the negative times that will surely come.

Most people won't invest this way.

- It requires work and time to understand a company at a deep level.
- It requires conviction in the face of disagreement over time.
- It requires the ability to sit still. The best returns come from holding great companies for long periods.
- It requires emotional control because markets are volatile.

The same framework that identifies great investments also identifies what is happening in the economy more broadly - whether through investments, career choices, or what skills you develop.

Chapter 11 - The Data Moat Principle

What matters most in today's analysis is data.

- Proprietary data that a company owns or generates, that no competitor can access or replicate, and that compounds over time, i.e. you cannot create a decade of YouTube videos.
- An AI model is essentially a compression of its training data.
    - Better data = better capabilities out
    - Compute can be bought, talent recruited, algorithms published, but data a company has uniquely generated or has access to cannot be acquired on the open market.
    - In the AI world, the best AIs will be the ones with the best data, and the best data moats.
    - When you are looking at a benchmark score, you are looking at a snapshot in time. When you look at a data moat, you are looking at a trajectory. One tells you where you are while the other tells where you can go in the future.

- Data moats compound over time.
- Synthetic data
    - AI systems trained on synthetic data tend to exhibit subtle degradation that compound over generations. Training on real data produces better results than training on simulations of the real thing.
    - Even if synthetic data becomes viable, the companies with real data will be able to validate and calibrate their synthetic data generation.
    - For understanding human behavior, human-generated data have primacy. You can only observe human expressions, not synthesize them.
- If you understand the data moat principle and apply it to your decisions, you will be positioned differently than most others.

Chapter 12 - Your Personal Roadmap

Where do you sit on the socioeconomic ladder?

- Capital ownership, skill set, position relative to AI disruption

The top 20%

- Deployable capital that works while you sleep.
- Ownership stakes in businesses or investments.
- The ability to hire talent or deploy AI to multiply output.
- Your income is not purely dependent on trading knowledge for dollars.

If your not sure you qualify, you probably don't.

If you do belong, deploy, don't just consume. You must participate to profit. If you have the capital to fund your own projects, then build something.

The middle 60%

- The question is whether you are disrupted or disrupt yourself first.
- The most valuable skill right now is knowing how to deploy AI in specific domains.
    - What is scarce today is people who understand a specific industry deeply AND know how to apply AI to transform it.
        - The lawyers who thrive will be the ones who figure out how to use AI to do 10x the legal work.
    - Figure out how AI changes things in your industry and use it.
- Move toward capital ownership.
    - AI is about to devalue a lot of cognitive labor.
    - Start accumulating capital, i.e. spend less than you make.
    - Every dollar of capital can compound without your labor.
- Five years is your maximum window.
- Don't wait for the government.

- What if you are starting from zero?
    - AI is available for free, to learn and build skills.
    - Ask AI to explain concepts in your field or interest.
    - Use AI to draft documents and analyze problems.
    - Treat AI as a tutor/research assistant/partner and stop thinking that you are talking to a machine.
    - Try to spend two hours a day with AI.
    - Practice learning how to prompt AI to get the most complete answer. Ask AI how you should use it.
    - Treat every prompt as the start of a conversation.
- All you need is a problem worth solving and the willingness to iterate with AI until you have solved it.
- If you have the chance, lean toward accepting equity compensation over cash, but only if the company is positioned well for AI.
- AI tools make individual capability matter more than ever.

Most people interact with AI as consumers. The real value comes from building workflows that incorporate AI into a repeatable process.

If you are actively building something, then you are effectively using AI to replace a team of people that are helping you.

The best AI businesses are not AI companies, but companies that generate proprietary data, then use AI to extract value from that data. If your business doesn't generate proprietary data it is probably not viable in the AI era.

Scale is everything. If you are building something, think about scale from day one.

First principles, not incremental thinking should be used by any business.

- Incremental thinking is 'how do we make this 10% better?'
- First principles asks 'if we were starting from scratch, with our current technology, what would we build?'

Understanding categories of work that remain distinctly human should shape your roadmap.

- A nurse at a person's bedside
- A plumber under the sink
- A salesperson in a boardroom

Novel judgment matters when navigating the unknown.

Novel ideas (creative thinking) toward breakthrough innovations.

Trust and accountability matter when dealing with people, whether regulatory or psychological. Relationship building is still a key part of the workforce.

Complex coordination matters, i.e. dealing with multiple stakeholders.

You can't control the macro forces reshaping the economy, but you can control how you respond to them.

AI will master cognitive tasks, but that still doesn't replace human connection and can often make the human more efficient.

- A doctor assisted by AI can treat each patient better, as well as seeing more patients.