

Zero to One

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Preface.

- Unlikely as it sounds, the answer tends to be far worse than the crisis of 2008. Today's "best practices" lead to dead ends; the best halves are new and untried.
- The single most powerful pattern I've noticed is that successful people find value in unexpected places, and they do this by thinking about business from first principles instead of formulas.
- If you copy from past success you are learning from them.
- It's easier to copy a model than to create something new.
- The best path to success is new and untried.
- The paradox of teaching entrepreneurial is that patterns exist but there is no one formula.
- Successful people find value in unexpected places.
 - They do this by thinking of principles instead of formulas.

Chapter 1: the challenge of the future.

- Whenever I interview someone for a job, I like to ask this question: "what important truth do very few people agree with you on?"
- Brilliant thinking is rare, but courage is in even shorter supply than genius.
- From the founding fathers and politics to the Royal Society in science to Fairchild semiconductors "traitorous eight", small groups of people bound together by a sense of a mission have changed the world for the better.
- In the most dysfunctional organizations, signaling that work is being done becomes a better strategy for career advancement than actually doing work.
- A new company's most important strength is new thinking.
- Interview Question: what important truth do very few people agree with?
 - Most people believe in 'x' the truth is the opposite.
- Courage is in even shorter supply than genius.
- What makes the feature distinctive and important is that it hasn't happened yet but there is a time where the world looks different from today. In this sense if nothing about our society changes in the next 100 years than the feature is over 100 years away.
 - The future will be different but it will be rooted in today's world.
- Progress can take one of two forms.
 - Horizontal: copying things that work. Easy to imagine because already know what it looks like. (globalization) (China)
 - Vertical: doing new things, going from 0 to 1. Requires doing something and nobody else's ever done. (technology)
- China is straightforward the copying everything that has worked in the world today.
- Technology should not be limited to just computers. And he knew her better way of doing something is technology.

- Developed nations imply a finished sense of being developed, and poorer nations are just trying to catch up.
 - Most people think the future of the world will be defined by globalization but the truth is technology matters more.
- Spreading old ways of wealth around the world will create devastation not riches.
- In the world with limited resources, a new world without Advanced Technology is unsustainable.
- Our smart phones that distract us from our surroundings also distract us from the fact that our surroundings are strangely old.
 - Only computers and communication has improved dramatically since the 1970s.
- Today our challenge is to imagine and create the new technology of the future.

Startup Thinking

- Small groups of people bound together by mission have changed change the world for the better.
- It's harder to develop new things in big organizations; it's even harder to develop them by yourself.
- In large organizations signaling that work is being done is often better than having work done.
- Startups work on the principle the need to work with other people to get things done.
 - You also need to stay small enough see you actually can.
- A startup is the largest group of people you can convince of a plan to build a different future.
- A company's most important strength is new thinking. Small size affords space to think.
- Startup has to question, receive ideas and rethink business from scratch.

Chapter 2: party like its 1999.

- To answer the contrary in question above, it might be easier to start with what everyone agrees upon.
- Madness is rarely in individuals, but in groups parties nations it is the rule.
- If you can identify a delusional popular belief you can find what's lies hidden behind it.
- It should be commonly accepted that profit is what runs business. This truth however was not followed in the late 1990s where page views take over profit margin by promising an investment in the future.
- Whenever a theory that commonly is accepted becomes faulty we call it "the bubble bursting".
 - The distortions caused by the bubble don't disappear when it pops.
- The Internet bubble was the biggest crash since 1929, the lessons learned afterwards defines and distorts almost all thinking about technology today.
- The first step to thinking clearly is to question or we think we know about the past.

A Quick History of the 90s

- We tend to remember the 90s as a prosperous decade that ended with the Internet bust of the late 90s. We often forget the troubles and the perils leading up to the .com bubble.
- There was a pessimistic undercurrent throughout the society of the US.
- Netscape was able to offer IPOs even though had never turned a profit.

- The old economy could not handle the challenges of globalization making the Internet craze much more ideal.
- The new economy of the Internet was the only way forward.
- Every week dozens of new Internet startups would compete to throw the most lavish launch parties.
- Everyone should have known the.com is this model would not be sustained.

PayPal Mania (Track 7)

- PayPal decided to pay users \$10 to sign up, and another \$10 to refer a friend.
 - This provided an exponential growth rate.
- Since the bubble popped, faith in technology was low shifting the world to focus on globalization rather than technology.
 - The result was another bubble, this time in real estate.
- Four lessons from the bubble crashing of 2000: (Should be questioned because these principals are based on an over correction)
 - Make incremental advances. Grand visions inflated the bubble so they should not be indulged. Anyone who claims to do something great should be suspect. Anyone who wants to change the world should be more humble. Small incremental steps are the only safe path for continued growth.
 - They lean and flexible. All companies must be lean, code for unplanned. You should not know exactly what your business will do, planning is arrogant and inflexible. Instead you try some things out and innovate.
 - Improve on the competition. Don't try and create a new market prematurely. The only way you know how you have a real business is to start with an already existing customer, so you should build your company by improving on recognizable products already offered by successful competitors.
 - Focus on product not sales. If your product requires advertising or sales people to sell it, it's not good enough. Technology is primarily about product development, not distribution. The only sustainable growth is viral growth.
- The opposite principals are equally as true.
 - It is better to risk of boldness this than triviality.
 - Bad plan is better than no plan.
 - Competitive markets destroy profits.
 - Sales matter just as much as profit.
- To build the next generation of companies we must abandon the Dogma created after the crash. That doesn't mean the opposite ideas are automatically true.
- Instead ask yourself how much of what I know about business shaped by mistaken reactions to past mistakes. The most contrarian thing to do is not to question the crowd but to think for myself.

Chapter 3: all happy companies are different.

- What valuable company is nobody building?
- A company can create a lot of value without being valuable in itself.
 - You also need to capture some of the value you create.
- Comparing airlines the capture very little value of they provide, to Google provides little value but captures more profit.
 - The airlines compete with each other Google stands alone.
 - In 2012 the average airfare only made about \$.37 per passenger.
 - Google makes so much money that it's now worth three times more than every US airline combined.
- If you want to create and capture lasting value, don't build an undifferentiated commodity business.
- In perfect competition, a business is so focused on today's margins that it can't possibly plan for a long-term future.
- In a static world, a monopolist is just a rent collector. If you corner the market for something, you can jack up the price; others will have no choice but to buy from you. Think of the famous board game: cards are shuffled around from player to player, but the board never changes. There is no way to win by inventing a better kind of real estate development. The relative values of the properties are fixed for all time, so all you can do is try to buy them up.
- Perfect competition, monopoly.
 - Perfect competition is considered the ideal and default state in economics 1:1.
 - So-called perfectly competitive markets achieve equilibrium when producer supply meets consumer demand. Every firm in a competitive market is undifferentiated and sells the same homogeneous products. Since no firm has any market power they all must sell at whatever price the market determines. If there is money to be made new firms enter the market increased supply and drive prices down, thereby eliminating the profits that attracted them in the first place.
 - In perfect competition, in the long run no company makes sustainable profit.
 - Whereas a competitive firm must sell at the market price, a monopoly owns its market so it can set its own prices.
 - Since it has no competition it produces at the quantity and price combination that maximizes its profits. The kind of company that is so good at what it does that no other firm can offer a close substitute.
 - Google hasn't competed in search since the early 2000's, when it distanced itself from Microsoft and Yahoo.
- Capitalism and competition are actually opposites.
 - Capitalism is premised on the accumulation of capital, but under perfect competition all profits get competed away.
- If you want to create and capture lasting value, don't build an undifferentiated commodity business.

Lies People Tell

- Monopolies rarely state about their market share ownership because that will warrant audits and scrutiny.
 - They tend to do whatever they can to conceal their monopoly, usually by exaggerating the power of their nonexistent competition.
- Although Google owns 68% searches, if you consider Google online advertising, it's only a small piece of a \$17 billion market. Even if Google monopolized all US search engines, it would still only 3.4% of the global advertising market.
- Framing itself as another tech company Google can escape all sorts of unwanted attention.

Competitive lies (track 10)

- Non-monopolies tell a different lie, "We are in the league of our own".
- Understating the competition is the biggest mistake a startup can make.
- The temptation is to describe your market as narrowly as possible so you can seem like you're the market share owner.
- What is the true relevant market that you are in?
 - There is an incentive not to ask these questions. When you hear the new restaurants fell within one to two years you come up with a story of how yours is different.
 - British foods intersects restaurant intersects Palo Alto
- Monopolists distract their monopoly by describing it as the union of several markets.
 - Search engine unites mobile phones unites wearable computers unites self driving cars.

Ruthless People

- The competitive ecosystem pushes people towards ruthlessness or death.
- Because Google is not having direct competition it can care more about its employees and its impact on the wider world.
 - A business that has successful enough not to jeopardize its own ethics.
- In perfect competition a business is so focused on today's markets and margins that they can't possibly plan for long-term future. Only one thing can allow a business to transcend the daily struggle for survival: monopoly profits.
- (Track 11)

Monopoly Capitalism.

- In a static world a monopolist is just a debt collector, if you own the market you can jack up the price and everyone will have no choice but to buy from you.
- Creative monopolists create more choices by adding entirely new opportunities and categories of abundance to the world.
- The history of progress is the history of better creative monopolies overcoming the old ones.
- Long-term and high profit monopolies are incentives for new players to join the field.
- Firms locked in competition are unable to fund such R&D projects that a monopoly is able to.
- If your industry is in a competitive equilibrium the death of your business won't matter to the world some other undifferentiated company will always be ready to take your place.
- Every new creation occurs far away from equilibrium.

- All happy companies are different; each one earns monopoly by solving a unique problem. All failed companies are the same they fail to escape competition.

Chapter 4: the ideology of competition.

- The answer is that competition is not just an economic concept or simple inconvenience that individuals and companies must deal with in the marketplace. More than anything else, competition is an ideology—the ideology—that pervades our society and distorts our thinking. We preach competition, internalized its necessity, to enact its commandments; and as a result, the trap ourselves within it—even though the more we compete, the less we gain.
- All Rhode Scholars had a great feature in their past.
- Lots, apparently. As a startup, each clan had been content to leave the other alone and prosper independently. But as they grew, they began to focus on each other. Montagues obsessed about Capulet upset about Montagues. The result? Windows versus chrome, being versus Google search, explore versus chrome, office versus docs, and surface versus Nexus. Just as were costs the Capulet's and Montagues their children, a cost Microsoft and Google their dominance: Apple came along and overtook them all. In January 2013, Apple's market capitalization was 500 billion, while Google and Microsoft combined were worth 467 billion. Just three years before, Microsoft and Google what each more valuable than Apple. War is a costly business. Rivalry causes us to over emphasize old opportunities and slavishly copy what is worked in the past.
- The hazards of imitated competition may partially explain what individuals with an escape Aspergers-like social ineptitude seem to be at an advantage in Silicon Valley today. If you are less sensitive to social cues, you're less likely to do the same thing as everyone around you.
- People believe competition is healthy because competition is not just an economic concept, or simple inconvenience the individuals and companies must deal with in the marketplace. More than anything else competition is an ideology, the ideology that distorts our thinking.
- We preach competition, internalize its necessity and enact its commandments and as a result we chop ourselves within it, even though the more we compete the less we actually gain.
- Our educational system alone promotes competition. Those with high marks receive status, perks and congratulations.
- We teach children the same subject and in the same methods, so often identity is correlated to how well the student does in school versus the competition.
- Students who excel rise until the competition become so fierce that their dreams could be in out of them.

War and peace.

- War metaphors invade our everyday business language, we use headhunters to build up a sales force, to take a captive market and make a killing.
 - But really it's competition not business that's like war.
- Inside the firm, people become obsessed with their competitors for career advancement. Then the firms themselves become obsessed with their competitors in the marketplace. Amid all the human drama people he lose sight of what matters and focus on their rivals instead.

- Rivalry causes us to over emphasize old opportunities and slavishly copy what worked in the past.
- If you're less sensitive to social cues, you are less likely to do the same thing as everyone else around you. You'll be less afraid to pursue those single-mindedly and thus be more likely to master it.
- (Track 14)

Chapter 5: last mover advantage.

- Simply stated, the value of the business today is the sum of all the money it will make in the future.
- What does a company with large cash flows far into the future look like? Every monopoly is unique, but they usually share some combination of the following characteristics: proprietary technology, network effects, economics of scale and branding.
- As a good rule of thumb, proprietary technology must be at least 10 times better than its closest substitute.
- A good startup should have the potential for great scale built in its first design.

Chapter 6: you are not a lottery ticket.

- While a definitely optimistic future would need engineers to design underwater cities and settlements in space, and indefinitely optimistic future calls for more bankers and lawyers. Finance epitomizes indefinite thinking because it's the only way to make money when you have no idea how to create wealth. If they don't go to law school, bright college graduates had to Wall Street precisely because they have no real plan for their careers. And once they arrive at Goldman, they find that even inside finance, everything is indefinite.
- We are more fascinated today by statistical predictions of what the country will be thinking in a few weeks time than by visionary predictions of what the country will look like in 10 to 20 years from now.
- Eroom's law --that's Moore's law backwards— observes that the number of new drugs approved per billion dollars spent on R&D has halved every nine years since 1950.
- The greatest thing Steve Jobs designed was his business. Apple imagined and executed definite multiyear plans to create new products and distribute them effectively. Forget “minimum viable products”—ever since he started Apple in 1976, jobs saw that you can change the world through careful planning, not by listening to focus groups feedback or copying others' success.

Chapter 7: follow the money.

- People who understand the power law will hesitate more than others when it comes to founding a new venture: they know how tremendously successful they could become by joining the very best company while it's growing fast.

Chapter 8: secrets.

- Along with the natural fact that physical frontiers have receded, for social trends have conspired to root out belief in secrets. First is incrementalism. From an early age, we are taught that the right way to do things is to proceed one very small step at a time, day by day, grade by grade. If you overachieve in and up learning something that's not on the test, you will receive credit for it.
- Second is risk aversion. People are scared of secrets because they are scared of being wrong.
- Third is complacency. Social elites have the most freedom and ability to explore new thinking, but they seem to believe in secrets the least.
- If you think something hard is impossible, you'll never even start trying to achieve it. Belief in secrets is an effective truth.

Chapter 9: foundations.

- A company does better the less it pays the CEO—that's one of the single clearest patterns I've noticed from investing in hundreds of startups.

Chapter 10: the mechanics of Mafia.

- Many seem to think it's a sacrifice necessary for making money. But taking a nearly professional view of the workplace, in which free agents check in and out of transactional basis, is worse than cold: it's not even rational. Since time is your most valuable asset, it's odd to spend it working with people who don't envision any long-term future together. If you can't count durable relationships among the fruits of your time at work, you haven't invested your time well—even in purely financial terms.
- So we set out to hire people who would actually enjoy working together. They had to be talented, but even more than that they had to be excited about working specifically with us. That was the start of PayPal Mafia.
- Discover the basics like health insurance and an promise what no others can: the opportunity to do irreplaceable work on the unique problem alongside great people. You probably can't be the Google of 2014 but you can be like the Google of 1999.

Chapter 11: if you build it, will they come?

- Customers will not come just because you build it. You have to make that happen, and it's harder than it looks.
- All salesman are actors: their priority is persuasion, not sincerity.

Chapter 12: Man and the machine.

Chapter 13: seeing green.

- Matt's note: Invest in renewable energy and industrial index. RENIXX.
- Most cleantech companies crashed because they neglected one or more of the seven questions that every business must answer:
 - The engineering question: can you create breakthrough technology instead of incremental improvements?
 - The timing question: is now the right time to start your particular business?

- The monopoly question: are you starting with a big share of a small market?
- The people question: do you have the right team?
- The distribution question: do you have a way to not just create but deliver your product?
- The durability question: Will your market position be defensible 10 and 20 years into the future?
- The secret question: have you identified a unique opportunity that others don't see?
- At founder's fund, we saw this coming. The most obvious clue was sartorial: cleantech executives were running around wearing suits and ties. This is a huge red flag, because real technologists wear T-shirts and jeans. So we instituted a blanket rule: Pass on any company whose founders dressed up for pitch meetings. Maybe we still would have avoided these bad investments if they taken the time to evaluate each company's technology in detail. But the team insight—never invest in a text CEO that wears a suit—got us to the truth a lot faster. Best sales are hidden. There's nothing wrong with the CEO who can sell, but if he actually looks like a salesman, he's probably bad at sales and worse at Tech.
- Elon describes his staff this way: “if you are at Tesla, you are choosing to be at the equivalent of Special Forces. There is the regular Army, and that's fine, but if you working at Tesla, you are choosing to step up your game.
- Finding small markets for energy solutions will be tricky—you could aim to replace diesel as a power source for remote islands, or maybe build module reactors for quick deployment at military installations and hostile territories. Paradoxically, the challenge for the entrepreneurs who will create energy 2.0 is to think small.

Chapter 14: the founder's paradox.

- Apple's value crucially depended on the singular vision of a particular person. This hints at the strange way in which the companies that create new technology often resemble feudal monarchies rather than organizations that are supposedly more modern. A unique founder can make authoritative decisions, inspire strong personal loyalty, and plan ahead for decades. Paradoxically, impersonal bureaucracies staffed by trained professionals can last longer than any lifetime, but they usually act with short time horizons. The lesson for business is that we need founders. If anything, we should be more tolerant of founders who seem strange or extreme; we need unusual individuals to lead companies beyond mere incrementalism. The lesson for founders is that individual prominence and adulation can never be enjoyed except on the condition that it may be exchanged for individual notoriety at any moment, so be careful.