

TECHCRUNCH DISRUPT NOTES

don't say "bettering the world" or "disrupting", sounds corny and predictable

Greyparrot—vision for waste sorting in recycling.

How would I come up with this?

Reading about waste problems in a book or while touring a plant and being surprised that 30% of waste sorting is still happening by hand, and that's what preventing recycling from scaling. That, coupled with a ML background that knows how vision could be applied to this. When you have a big breakthrough in AI, people look to apply it to *everything* to optimise utility of tech.

How would I solve it?

First principles speaking, it can be a vision solution, or you could look at some other property to gauge weight—IR reflectivity, density, sound reflection, and all—you might even combine some of these methods with an algorithm that weighs them differently to conclude what type of waste it is.

Why is it attractive or not?

Huge industry (waste) and clear problem with with clear explanation of why current solutions are inadequate.

Sparkle—making biodegradable sanitary pads with banana plant waste.

How would I come up with this?

Reading about how there is lots of banana waste, and lack of feminine hygiene, as well as having a phys/chem background to see how you might connect the two.

How would I solve it?

I wouldn't choose this problem. I don't this approach of connecting two problems is effective unless the output performance is OOMs better than current.

Why is it attractive or not?

If your only advantage is that you're doing good, no-one will care or invest. Their methods for making pads were *as good* as existing methods, not much better, and so no-one cares. It's also not clear how on impact on consumer, they're any different from any other pad company.

Moodbit—real-time HR analytics to ensure employee engagement and happiness.

By sentiment mining/NLP the companies' internal comms, like Slack and email, as well as taking data from the HR department about how long employees have stayed in the past, Moodbit predicts when individuals are happy/will leave, and gives employees and HR tools to prevent that from happening. It makes lots of use of existing sentiment mining infrastructure, but edits it to make it specific to company-internal mining.

How would I spot this problem?

By seeing literature demonstrating how important employee happiness is to productivity, and witnessing in my own workplace how poorly it's tracked by intermittent, non-actionable surveys. The founders worked in HR, and seems like they just founded this to "found a startup" as people w/ HR experience.

Co-founders are one technical and one journalist; the journalist worked as a freelancer who did corporate communications for companies' HR departments, when she spoke to HR found that they didn't know why retention was low—replacing employees was expensive, and consulting firms they hired only gave qualitative insights.

How would I solve it?

An anonymous, real-time system would work best. I might use cameras to do emotional analytics in the office space? I might use ML to process how they phrase their emails (Moodbit does this with sentiment analysis technology)?

Why is it attractive or not?

Not clear whether businesses really care about optimising employee happiness to the point that they'll buy software to do it. Since it's not clear how the figure of 600B lost in disengaged employees was arrived at, the solution still feels a bit forced.

Miho Shoji, CEO, mshoji@mymoodbit.com

Wunder—real-time analytics on how parents should interact with kids to make them smarter.

how they got started—research based on his children's defects

The founder is a PhD in Neuroscience that has kids, and comes from Asian culture—from Hong Kong—where performance of the kids is culturally correlated with prestige and reputation of the family, so people will go to great length to optimise the performance of their kids. His academic background coupled with his personal experience made him think about—wait, why are we not automating this or supplementing this with technology (the process of parenting, that is). Interesting how culture in HK influenced desire to optimise kids' intelligence.

clinical trials and dependence on unambiguous results of literature

here is extensive, unambiguous literature that supports the idea that kids that hear a wider range of vocabulary in their first 3 years end up better at math, and more to that extent. In the past, researchers in neuroscience and behaviour would put tapes in the house, and then manually analyse what parents did and how it affected kids. This took years. Now, with NLP and ML, you can get real-time data on what parents are saying, parse it, compare it to data on what parents *can be* saying/showing their young kids to optimise performance, and feed that back to parents as analytics—all in real time.

lamont@hellowunder.com (Lamont Tang, founder/CEO)

RapidAPI—one marketplace for all your APIs and their metrics.

How would I spot this problem?

The problem is that as we get lots of new API calls and abstract more and more things, you have to keep on top of all your API keys, the call numbers from each, and more. This is a “marketplace” to collate all your API data in one place. I wouldn't have identified this problem, as you need to be a developer to experience it yourself—or, no, that's too low a standard; when I made API calls to good reads and saw how they rate-limit you, I should've foreseen how professional developers will make lots of API calls and will need something to be able to handle them all at the same time.

How would I solve it?

Using an intuitive, clean dashboard, much like them.

TALK: How to build a billion dollar SaaS company

4 stages of growth

You have to take a different approach when you're a founder, depending on whether you're at 0-1M, 1-10M, 10-75M, or 75M+. In the first one, you're a salesperson. You haven't reached product-market fit, and you are searching for it. Essentially, you need to be looking at the problem space and iterating on your product, testing with customers to see what sticks, and adjusting your sell accordingly. You have to be scrappy, and on the streets making deals happen and telling people about what you're doing.

At the second stage, it's much the same, but you have to hire a sales team that thinks similar to you to do the same. You start to settle on a product-market fit, and start repeating that to make money. At the third stage, it's all about repeatability. In the final stage, you start looking for other avenues of making money, other products, other, related services/products your clients need as you get to know your clients better. By launching new services do you go from 75-1000M in revenue; much like Brex is trying Brex cash.

knowing your limits

It's very important to realise when you can't do something, because then you should bring ins someone who specialises in doing that, or the very stock you own of the company yourself will suffer. Being very consciously self-aware in this sense is crucial.

competitive landscape and burn rates/profit vs growth while thinking about unit economic health

Burning money can be good. If you know that you have "healthy unit economics"; that is, you can make money off each sale if you simply implement X, which is easy to do (and you've validated that), then profitability is necessarily orthogonal to growth. If you're sure you can become profitable when big, you should grow. That's because you lower prices drastically when you burn, bringing on more customers. It's that simple, and then over time you can transition to the profitability structure you foresaw.

Be wary of very good salespeople misleading you into thinking you found product-market fit. Good salespeople can convince anyone to buy anything if they try enough times with different people; they can help you reach the 1M or even 10M mark with a shitty product. And so you really have to track how users are interacting with your product to see if it's adding value and if they will return because it's so sticky, that's how you can ensure your value scales to 1B.

New terms: ARR, KPI, Unit Economics

TALK: How to contract with the US government

why the government is interacting more with industry now

Because in the 1980s, funding in industry outgrew that of the government, because now there are more tech challenges than there were before (agtech, cybersecurity, and more) that drives a literally larger volume of innovation, because there is more money in industry that's where all the breakthroughs are happening (smartest people 50 years ago would work for government). Essentially, balance of power has shifted to private industry.

why you'd want to work with the government at all

Think of the biggest company in the world, it's money, resources, connections and influence. Now 10x that, you have a glimpse of what the US government could help you do.

how the government is becoming more self-aware about its bureaucracy

One of the hardest thing about working with the government is the fact that it's so damn beauracractic. Because it's run by traditional old people, there are so many layers of things to do, forms to fill out, months to wait for different people to approve things, and it's easy to think the person you're interfacing with is in power when they are really just an empty puppet. All of this means that most companies actively *avoid* working with the government. That said, the government is trying to change this, as it realises it can gain a lot by working with industry and this is why industry doesn't work with it. That's why it's doing these demo days like the one in March in NYC, and the November 5-6 space one in SF.

how to approach the government—sherpa and first approaches by SpaceX as an outsider & importance of proof—importance of demonstrated work with them

You have to have a “sherpa”. Musk was successful because he showed rigorous proof of concept and had it working before he approached them, so it really wasn't a “moonshot” at all for them. More importantly, he used his connections to get some actually powerful people in the government to talk to him, and he demonstrated to them he meant business, which really moved things along. He was clear—“what do I have to do to get things moving”, and did that. You also want to have some commercial relevance outside of the government, because they like seeing private investment as a signal of validation. The best first approach would be to go to a conference on defense/space/security and literally talk to people who work in government, or reach out to people via sites like DIU, DARPA that were created for this very reason.

TALK: Evaluating talent and making decisions—operating a team, Ray Dalio

Culture of radical transparency & emphasis on understanding criticism. He likes to champion “thoughtful disagreement” and lets entry-level hires freely criticise him. Many people can't stomach his culture, and find it pretentious. His codified “principles” are based on learning from mistakes very deliberately, analysing them consciously in great detail.

Despite his 20B net worth, he's just another guy. You saw him walk like us, feel sore like us, feel tired and bored like us, and succumb to human biases like us. These “uber-successful” people are really just like you and me, but they made some decisions that worked out well, and now have a large number attached to their bank account.

It's interesting that at Bridgewater, as much time is spent thinking about *how to work* as is spent doing actual work itself. They've built out a whole suite of apps that track how people work, think, their productivity, and more. One of the apps is the “dot collector” where people rate other people's inputs during meetings based on any of many traits like “assertive yet open minded” and then everyone rates everyone, and you build up a profile of how individuals rate others, and by extension by processing their comments, their attitudes and personalities, as well as getting everyone to thin about and grapple with criticism and feedback on what they're doing and how they're doing it.

His talking style included heavy use of touching the interviewer/reaching out to own his space, pauses, conviction, talking loud as a means to get attention. He's smart, but not a genius.

He's also part of the going to burning man and “creativity” gang, involved with “sex, drugs and rock & roll”, which is fascinating to see from a 70 year old man.

Interesting side note; two finance/consulting leaning people at Harvard Club event said they were exposed to Bridgewater, and found it “too much” and just didn't enjoy being around them.

Moabi—reverse-engineering firmware in IoT applications to find security flaws.

what firmware is, who makes it for the cars/fission reactors/energy plants

Firmware is the binary that operates mechanical objects like cars and nuclear reactors and power plants. It's like the operating system of embedded products. It's super low level, but still involves some networking, as increasingly, these products are connected to each other, and to the internet so they can be monitored and accessed remotely—like operators controlling a power plant.

security holes in the source code aren't spotted

The car companies that make the cars don't release the source code for the firmware they deploy on their cars, and so companies that rely on car companies for parts/cars don't know anything about the security holes in that source code. This company has created technology to reverse engineer the binary of the firmware of the IoT to output the source code's fundamental security holes and vulnerabilities. It helps companies by preventing hacks in their products; with things like energy plants, that's key. When the US deployed a fake power plant, they, within 24h, saw thousands of attempts from state-sponsored Chinese hackers to make it break down.

how they sell (meeting people, not marketing)—importance of explaining simply

Since their tech is niche and advanced, the question becomes how they sell. And they sell to businesses, and so an important ability in this context is to be able to distill the complexity of their service down into a clear value add, even for non-technical people. For example, it took me several minutes to understand exactly how they work with firmware, what they do, and why their value add is. Imagine a business exec trying to parse that—this is an important skill.

how the problem was identified—just a hacker operating at a very high level tinkering & then someone with an IoT background meeting them and finding it's industry important

The original guy was just playing around with binary, pushing the limits of what he knew how to do. He was part of an elite group of french hackers that was just tinkering. It was only when the British guy with a background in IoT came in that he was able to convince the French guy that there would be any commercial importance of this at all. And so this really is deep technology, as it's not only super specialised, but also literally no-one else in the world has this technology, and much of it is patented.

Jonathon Brassard france founder & rizwan choudri COO via rizwan.choudri@moabi.com

STARTUP BATTLEFIELD 1

Traptic—Robots as a service picking strawberries to improve % harvest.

why was the pitch good/bad?

monotone and scripted, gimmicky with strawberries at the end. made you think more about the product than being impressed by the pitch.

what was the product good/bad?

they offer it “as a service” so the people don't have to actually buy the robots.

what do investors asked and what do they care about?

what influences their bottom line—one thing is how fast you can pick them.

- so how fast are you picking them?
- why do you have a human driver as part of the service? that hints that maybe it needs regular expertise/servicing.
- how do farmers do away with all their existing infrastructure?
- what's the timeline of expanding tech to fit bigger markets, not just strawberries?

how did they come up with/see the problem?

going to a farm and seeing the fact that labor is preventing 20% of fruit from being picked and thinking—hey, I can automate that. essentially seeing a startling misoptimal fact and being taken aback by it and thinking “hey, there must be a better way”.

how would I solve it?

Delos—models to predict risk of catastrophe for homes that don't otherwise get insurance.

why was the pitch good/bad?

our solution visual performance compared to market really hammered things in niche market investors don't know a lot about makes the viewer think “huh, I didn't know that industry even had problems of that scale, I learned something new”
impressive team credentials

what was the product good/bad?

what do investors asked and what do they care about?

- what's the competitive landscape
- is this company even doing something good as it's mission? you seem to be doing something that makes money but is actively bad for people.
- what's your proprietary edge?

how did they come up with/see the problem?

geoscience background and insurers working together

how would I solve it?

Sendmi—foreign exchange efficiency optimisation technology, money transfer.

why was the pitch good/bad?

felt robotic and scripted, feels weird when they pause to remember what they should say
demo showcasing exactly how easy the product is—genuinely impressive product
until the excellent demo it wasn't clear what exactly they were doing
strong background of team with exits/name brands behind them
when one person adds to what another said it seems rookie

what was the product good/bad?

it's an optimisation problem. it's not just in payroll, and not just in money transfer, but at the intersection, when workers want to send part of their salary home regularly.

it was a complex regulatory problem so the service was still a little unclear

what do investors asked and what do they care about?

- who's the decision maker at the employer that chooses to adopt the platform?
 - what are concerns they have?
- how did you get those partnerships? answer: "years of pain"—essentially emphasising how that's a moat
- how do you compare to X competitor? how are you different exactly?

how did they come up with/see the problem?

he has family that lives around the world, but witnessed inefficiencies in money transfer himself.

how would I solve it?

Render—automating hosting/deploying code to cloud providers.

why was the pitch good/bad?

clear explanation of problem as he experience it in a relatable way. it's as if you're telling a friend—started with a meme to lighten the mood. less formal feeling.

gorgeous design.

what was the product good/bad?

clear problem! I've had it myself. watching it being solved in real-time is awe-inspiring.

actual traction speaks for itself. user volume and major partners speak to validity of functionality and backs up the huge claims.

you spend loads on devOps engineers, you can save a shit-ton. up-front it's more expensive than AWS, for example.

what do investors asked and what do they care about?

- eventually you need customisation in devOps which an automated system cannot always cater to. at what point does this tech fall off?
- what are the biggest challenges in scaling?
- how do you compete with X?
- what's the ROI for a customer?

how did they come up with/see the problem?

experiencing it themselves and having a background in the field required to fix it.

—> start listing startling facts on different problems/industries on a sheet of paper as I read them

how would I solve it?

—> be selective with who I meet now

—> be selective with which parties I go to and what I do there

—>

Mutiny—tailoring business' websites dynamically for each visitor.

why was the pitch good/bad?

well spoken, but not too hardcore on charisma, easy to focus on product.
really strong background on founders—university/company credentials + previous startup work.

what was the product good/bad?

saying +54% conversion rate is a figure that speaks for itself.
the product is a web app dashboard that businesses use.
they manually have to change the personalisation on the marketing team of the copay using Mutiny, it's not automated. you can then track analytics on how well those changes are doing.

what do investors asked and what do they care about?

- why will customers continue to use this instead of just personalising once and saying goodbye?
- where do you go from here? how might you expand?
- how does this feature work logistically? don't you run into X problem?
- how are you pricing it? what's your business model?

how did they come up with/see the problem?

witnessed the deficiency firsthand at a previous startup.

how would I solve it?

TALK: What Investors look for

seed stage—investing in the team

founder-product fit—was the entrepreneur *born* to do this?

why are they uniquely qualified to solve this problem? what about their background give them a specific advantage?

how did they find us and approach us/how do they communicate/how do they pitch—all of this tells the investor about how you'll behave later down the relationship

85% of actual investments come from warm introduction—who introduces you to the founder influences how you perceive the founder

it's easy to get 15 minute intros to people to just be interesting and talk to them (like Cory) and then get *them* to make intros for you once they like you

investors telling us how to approach them literally teach at stanford GSB

the more impressive the background, the more layers to have, you convince them you're *exceptional*—could be top athlete, been in YC in the past, or educational credentials

signal.nfx.com--way to get investors

it matters *who* the investor is—better to have a prominent medtech investor as an angel instead of Peter Thiel, a lawyer

Just be thoughtful and deliberate in how you approach them, don't be an Indian scammer idiot
don't approach investors with growth contingent on investment—talk about how exactly you're going to progress from where you're at right now

when you're working in emerging markets and approaching investors, you need to check that the investor actually has something to contribute to the startup and doesn't know nothing about it
find investors that invested in a similar business, but in a developed country—like Theator
understand the biases of investors: investors think of areas in which they lost and are hesitant to re-invest, or lean towards investing in business that are not capital intensive or have a clear business models

lots of VCs love the contrarian view—if you can make a compelling narrative about what everyone is missing and why other investors can't see/understand

New terms: GMV (important for marketplaces—value traded on it)

TALK: Why not to eat meat

taking up land, polluting water, using clean water (energy)—biggest environmental challenge
best solution is to offer a competing product because people aren't just going to drop meat out of
some sense of environmental goodness
difficulties in R&D—texture, taste, content, more...
his background in biology and taking 18 months to consider how to spend his career mid-way

STARTUP BATTLEFIELD 2

OmniVis—quicker, cheaper Cholera testing in-field.

why was the pitch good/bad?

trying too hard to sound charismatic looks tacky and makes it harder to focus on the content.
strong founding team of academics—she convinced her prof to join ship, and so it has been
validated in that sense.

every time she gets a question, she consciously says “I’ll hand this question over” which makes it
sound like they aren’t on the same frequency

what was the product good/bad?

noble goal—nothing you can fault for taking on global health/disease, so automatically comes in at
the moral higher ground. shows it’s inspiring, but not necessary “wow, I must invest”—being so
clearly good for the world almost makes investors suspicious about whether there is a business
opportunity.

what do investors asked and what do they care about?

- tell us about your validation/field testing?
- how do you clients allocate the money to pay for this?
- how would you grow your business into other areas? what’s expansion looking like?
- how much do your clients spend on products like yours?
- how many would you sell a month?

how did they come up with/see the problem?

PhD student thinking critically about problems in global health, and seeing that her lab could spin
out technology to fix testing, which is currently expensive or inaccurate.

how would I solve it?

this is deep technology.

Ozone AI—an app to control which data businesses get to see.

why was the pitch good/bad?

standing there reciting a script
slides got messed up and there was awkward silence
pausing for effect seems forced and uncomfortable and rehearsed
very strong team credentials and experience makes things stronger

what was the product good/bad?

since users are data conscious, they give the user the chance to get discounts/advantages by
choosing to share data with certain corporations.

what do investors asked and what do they care about?

- who's your initial target user profile? response was "average US internet user"—not good
- the challenges X companies doing this in the past have faced are Y? How will you cope?
- how do you know these companies you're relying on will co-operate?
- what number of ads will you have to generate to make a profit?

how did they come up with/see the problem?

first principles approach to think about what the biggest trends of the day was—in this case users being data conscious, and how can we exploit/play on that siding with the consumers?

how would I solve it?

I wouldn't be able to think up a working business model. What they had was complicated and nuanced; they would partner with big businesses to get users discounts on commercial products in exchange for allowing those users' data to be sent to the businesses. I didn't even know you could restrict the data that is sent to businesses in the first place.

Leo Aerospace—custom launch for company payloads (as opposed to shared).

why was the pitch good/bad?

beautiful deck, themed around space, great video production.
clear speech with natural speech instead of tacky charisma or monotone droll.

clear outline of the problem in a way

they took questions outlining "how do you navigate X problem" and turn it into an advantage—showcasing how they are different from competitors, and the advantage their innovation gives them.

what was the product good/bad?

they explained the technical challenges they previously had—you need small rockets for individual launches to be economically viable, but you need large rockets to launch from the ground, so they're launching from the upper atmosphere using autonomous tech to do it without human intervention.

several existing deals with government like Air Force and FAA mean that it's been rigorously vetted by technologists.

what do investors asked and what do they care about?

- how much does it cost per kg?
- we're hesitant to invest in space tech because there's so capital intensive?
- what IP do you have?
- what's the time scale on getting to the promise you made of launching from 60Kft?
- what KPIs are you tracking?
- are there any environmental issues or dependencies?

how did they come up with/see the problem?

both worked in aerospace, saw the problem while working for NASA, had background in CS to be able to build autonomous tech to launch from upper atmosphere—first principles thinking.

how would I solve it?

Achu Health—predictive diagnostics for common illnesses on your phone.

the company basically predicted relatively pedestrian “fatigue” and “stress” and “common cold” before it happened so that you could take preventative steps, with about a 75% accuracy rate. they’d use data on atmospheric pressure, temperature, demographic information correlated to disease, where you live as a proxy for risk factors, and couple that with real time body temp, heart rate, pulled from wearables, put it through a ML algorithm that gets to know you better over time, and suggests steps for you to correct your health before an illness sets in. corollary business ideas they had was working with insurance to help the user interface with their insurance straight through the app (and perhaps sell this data to better inform who insurance companies choose to give insurance to) or to collect data on vitals connected to symptoms and sell that to medical research.

not clear how they move from the common cold and fatigue to more serious, actually illnesses that they will need to collect more bodily data on. but clinical trials on these initial illnesses seem promising.

TALK: Future of medical technology

ajay royan/mithril capital is a smart guy—figure out how to get in front of him

medtech has declined in the last 20 years as things like snapchat have lower capital costs and higher returns so less VCs invest in the field
silicon valley as a mindset now that the ease of starting tech companies has been democratized by the valley
future of medical companies—fred believes it’s the software that drives the robots that changes the world—the actual hardware itself is pretty dumb; autonomous vehicles thinking to medical robots
ajay on not deploying capital to make fee money

new term: LP—limited partner, someone who controls a stake in the fund/supplies money to it,
direct listing—allowing stocks to be traded when the company is private without issuing new shares, but means that you can’t have a bank ensure that all the shares are bought

TALK: David Krane, CEO at Google Ventures

guy is very articulate. he didn’t stutter or say “um” or “uh” *once* in the 30 minutes he spoke for. this gave him a sense of calmness, and made the person that’s interviewing him look like a stuttering mess, even though she was really talking relatively normally. this was subtle, since it didn’t jump out, but it made him seem incredibly composed and intelligent. actionably, get good enough to consciously stop saying “like” or “um” overtime you say those, and instead just add pauses and let your body language and command of voice keep the spotlight on you.

ctrl+labs (neural interfacing technology) was acq’d by FB—another hint that they are focused on the VR/AR market in an effort to reinvent the “smartphone” or create the next generation technology. You need to learn from people who have sold startups how to approach coming up with ideas that are “wired up”—that is, built with a specific sales strategy in mind.

Google Ventures secretly funds a *lot* of life sciences, and that’s what they’re most excited about.

TALK: Moderating AI, Sam Altman & Greg Brockman

unconventional structure of OpenAI because they need to raise so much capital—it’s not a nonprofit anymore, they needed to raise lots of capital and so got outside investment, which they capped the return for at 100x (excellent, but not insanely good)—and are trying to make it clear that their focus is on using AI for the betterment of humanity, not shareholders.

You measure AI progress by computational power driving AI models, which is really exponentiating now, something that people can't seem to get intuition around. Microsoft is paying openAI 1B for commercialising their technology & them using azure only. They made a hide-and-seek game with a physics engine, and the AI, when trained, actually broke the physics of the game to achieve the objective—showcases how AI is powerful because it ruthlessly evolves to exploit any holes/weaknesses built into logical systems, executing commands quite literally without looking for the spirit of what we're trying to say. Therefore, an important facet of AI research is getting to make AI that does what we *want* not what we *communicate we want*—and so we want these models to *learn what we want*.

Our brains evolved to interact intelligently with each other, and having AI interacting with itself is going to drive intelligence growth. Examples of milestones of OAI include the GPT2 essay writing model—they had to consciously stage release and NOT publish, read “Shapeshifting”, the book written by the intelligence program. They always thought if they just scaled their systems, it wouldn't work to win Dota, that they would need more pieces of reasoning, but it did—they haven't hit a major wall, but are struggling with math, and that's when they see the fundamental new reasoning they need, when they fail big with a project.

TALK: Sebastian Thrun, CS prof, Udacity co-founder, KittyHawk founder (flying cars)

by “flying car” it's a vertical take-off and landing that operates much like a plane once in the air problem is noise with VTOL stuff, and HeavySide is a prototype that tackles this—they hired a former FAA administrator to navigate government regulation turns out drag is the majority of energy sink—but when built out it takes 1/3 the energy per mile as a Tesla in terms of efficiency

you can go from downtown SF to Berkeley in 4 minutes

infrastructure has to be built which is a high activation energy but, after cars were invented, NYC swapped from all horses to cars in 20 years

the challenge is that there's no technology to manage 10,000 air taxis like you manage uber on the ground

autonomous flight is much easier technologically than self-driving cars

it's not just the fact that you're going from 1D to 3D, but also you spent 10% of the time commuting the first place

what are your ideas for future innovation?

Theator—vision to analyse surgical video & share analytics to teach surgeons more easily.

computer vision and tech innovation for analytics

sharing information between surgeons for learning purposes

collecting data from analytics (like how long X process within a surgery took for you and in other cases)

background of founder

long term goal of real-time feedback & regulation that involves

Amir Wolf, MD, PhD, tamir@theator.io, 6469359217

TALK: The Future of Mobility

- why we invented buses—we had a driver and so you wanted to spread passengers over the driver, but when you don't have a driver, and you have efficiency on a unit scale, why wouldn't you implement micro-mobility at that point?

- elon musk disregards flying cars—how does Sebastian disagree? many structural problems with tunnels—logistically being under houses, infrastructure to build tunnels, slower than air transport, falling parts is not realistic—see how planes exist now. I would agree with Thrun.

- autonomous flying is easier because things in the air can be tracked, but dogs and cats you don't want to hit on the ground can't be (that said, birds do exist and have to be recognised by vision software).
- Zoox fundamentally believes that Tesla doesn't have sensors collecting the *right* data and so won't reach autonomy anytime soon. I would be inclined to agree because Musk is not a researcher, but Zoox was started by researchers, and Waymo people seem to agree.

TALK: Sex Tech Startups

- sex & sleep such integral parts of human satisfaction & happiness but there's no significant innovation in these areas by serious technologists. they believe that there's an incredible amount of money to be made and they're turning it down in favour of stigma—they dislike “free money” when it's in this context, which is surprisingly—this is an example of how someone might benefit from objectively independent and contrarian thinking—making a bet in this space thinking everyone else that isn't investing is wrong.
- interesting example of PC culture—the female founders have a sense of entitlement just because they're female they insist the world is against them, touting how anyone who thinks nudity to demonstrate their product is stupid—ignoring cultural differences or understanding *why* people object. reminiscent of the uber-liberal, group-thinking mentality I was scared to see when I first came to the bay area.
- interesting challenges that people in this industry face—payment companies deny them, web hosting deny them because they just aren't worth the trouble—the payments and hosting services have little to gain by hosting even a breakout company, but a lot to lose if legislation nuance determines they're violating some decency law, and so in the end they have almost no-one willing to take a chance on them, even though the industry is huge and presents some fascinating technical challenges.
- the tech that goes into the sex robot vibrator is *complex*. it visibly involved advanced micro-robotics, internal fluidics, and software (firmware) based on anatomical research. the hardware that Lora DiCarlo (sex-tech company) is working on is futuristic, out of a sci-fi movie.

new terms: COGS (cost of goods sold) means the literal amount to make the product

Use AI—automating construction of portfolios for investment advisors.

why was the pitch good/bad?

sounds nervous and scripted, literally shitting himself, response is: mate, relax, the world isn't ending

since the product is somewhat complicated due to being in fintech, most people in the audience really had no idea what they were building—so maybe an analogy would be helpful
 you don't just want to be able to answer the questions—because that's not memorable, you want to stun people with new facts that you present by pivoting and showcasing why you're amazing
 most startups in this space are missing X or are wrong about Y because they're too focused on A, B for C reasons (which agrees with intuition)

what was the product good/bad?

what do investors asked and what do they care about?

- there is X problem in this industry? how do you grapple with that?
- logistically,
- why aren't you doing Y instead with this product?

how did they come up with/see the problem?

by being in the business. it's a fairly opaque problem that you wouldn't appreciate unless you've worked in the financial space or worked with investment advisors.

how would I solve it?

Civic Champs—automating volunteer interactions with nonprofits.

why was the pitch good/bad?

it's very easy to focus on what you're saying because you're practised and prepared so much, that you lose track of what the audience is hearing/understanding/taking away from what you're saying. slipping in casually how you sold a startup or leaving on screen that you went to Harvard is impressive, but explicitly talking about it to emphasise how sick you are just seems forced and cringeworthy

they spoke about clearly adjacent industries that you could clearly see the same technology transitioning to—it made sense that the tech and business model could pivot into bigger industries and you could more easily imagine it scaling to handle political campaigns.

what was the product good/bad?

what do investors asked and what do they care about?

- what's your sales process?
- what do clients most love about your process?
- you showed how the volunteer interacts with your platform, but how easy is it for the nonprofit?
- where do clients spend most of the time when using the app/what are the stickiest features?
- how do you charge customers, logistically speaking?

how did they come up with/see the problem?

must be problem-hunting or first principles thinking about different industries of varying sizes.

how would I solve it?

T4—automating and simplifying the market research process.

why was the pitch good/bad?

tried too hard with speaking techniques, went a bit overboard with emphasis and showbiz to make it look like they're making up a bad product. makes you a bit conscious that you're being sold to, as if you're being treated like a child that has to be persuaded.

what was the product good/bad?

unconvincing because it's a specific problem that a specific industry has—market research in consulting, you can't see how it could grow huge since the industry is of limited size itself, despite what the numbers say about the size, it's about intuition of size of industry.

investors notice when you're being evasive or talking about “smoke and mirrors” even when the audience doesn't.

what do investors asked and what do they care about?

- spotted a misleading stat—they aren't saving on analyst costs because analysts do a lot more than just search for market research
- how do you avoid X problem with your business model?
- how did you validate that this is a pain point?
- how have you decided which markets to target first—why not do X?

how did they come up with/see the problem?

he was a consultant himself that got drawn into the startup world and took a first principles approach to see what was the inefficiencies in his industry

how would I solve it?

ORBIT FAB—gas stations in space.

why was the pitch good/bad?

mistiming powerpoint, forgetting script, correcting yourself, all of that immediately lets you down knowing that the pitch is mediocre right of the bat.

specifications slide on the dimensions of the product—nobody cares, why are you telling us this?

what was the product good/bad?

“why doesn't this exist? because the technology to move fluids in space fundamentally doesn't exist. we solved that problem”

multiple layers of validation—we've had it work on the ISS, we've sold similar startups several times, we've sold to Lockheed Martin

when explaining a very technical/complicated product, a good analogy will really help them understand stuff

what do investors asked and what do they care about?

- margins are impressive, but where do those come from given X and Y in the space hardware industry?
- can your product work with legacy satellites?
- how do the unit economics work?
- how would you need the capital? do you need it all at one time—and what for?

how did they come up with/see the problem?

industry veteran who had been working in space for decades.

how would I solve it?

TALK: How to Exit

- you can think of exiting too late is when you pick up the phone with a potential acquirer is the first time you call them, which is what happened to Jess Lee of Sequoia; she wasn't thinking of exiting until someone offered and she realised that she was tired of working on the company.
- thinking too early is when you get desperate—Google interviewed the Twitch team early (you don't let that happen, they see you and understand that you're the brand) and said it wasn't strong enough for acquisition, and so be conscious of the team you're building. he really tried

hard to sell several companies several times, and it only worked about 50% of the time (despite these being excellent, deeply talented companies!)

- the best way to start a company is to align a problem you consider world-bending, and then start a company that solves a problem in such a way that there is a strong incentive for big companies to acquire eventually—think “wired up”:

—from Quora—

Some people say that my list eliminates all companies. Not by a long shot! You just have to know where good companies are. They are not at the local incubator or WeWork.

As an example, we presented a social media company (back when social media was just getting going). This was the entrepreneur’s third company (his first two were sold and achieved a very good ROI for his investors), and he had a senior level executive from each of these companies: Youtube, Disney, Apple, Microsoft, Yahoo, Google and one more I can’t remember. The chances for this company were very high because he had solid management experience and a solid board of directors. His company sold to one of them six months later.

Another: A medical device, a new type of stent that you use to clear a heart after a heart attack. Because the heart muscle is actively dying, seconds count, and this stent was cheaper and could be inserted in half the time of other stents. On his board he had 15 invasive cardiologists from major hospitals throughout the US. Since they are the ones who recommend new devices, do you think they would tell their hospitals to buy this new device that is superior to all others? Of course! It’s board WAS the market itself.

Another: A guy knows the CEO of Walmart who told him about an expense that they couldn’t lower no matter how much they tried (refrigeration). The CEO said if he found a cheaper device, he would buy it and put it in all Walmarts. In addition, one of the chief investors and board members owned half of the convenience stores in Japan. So as soon as the product is perfected, he had major customers already committed.

We call these deals “wired up,” where there is either a buyer ready to buy the company once it reaches certain goals, or major industry customers are already committed to buying the product. We get those all the time.

Since investor dollars are scarce and finite, do you think an investor will put their money into one of these types of deals? Or a deal where you have no idea who your customer is, no idea how you will reach the customer, and no idea if the customer will even buy it? Your competition, as a company seeking funds, is not the investors, but all these other great deals that we see.

So you have to put together a company that has all the elements — it has to have a finished product, some sales or revenue, plus major revenue coming in soon from an identifiable source. If you don’t have that, it’s a real crap shoot.

- aside from raising capital, an important responsibility of a founder/CEO is to build relationships that might lead to acquisition and do that early. but in the beginning years, it’s all about finding product-market fit and building great shit, not thinking about how you’d exit; otherwise you’re just a dream wantrepreneur

- acquisition is circumstantial—you know someone at the acquiring company who knew you for a long time, and now the company is just launching dollars to invest in X. the pitch to acquirers are more about them and how you fit with *their* vision than it is about you pitching how amazing you are, like you do to investors.

- you don’t think about exit early on—you solve the damn problem, it’s an incredibly distracting and jarring experience for everyone involved. Jess Lee is a straight talking girl—find a way to get in front of her.

- when you're raising as a founder, the valuations seem like abstract, monopoly money entities, but when you get acquired, all your revenue/numbers are put into mathematical models to determine whether a certain acquisition cost viable. sometimes, deals fall apart because founders want to get acquired at a certain valuation which is mathematically absurd, or if suddenly a key member of the team decides they won't move to the corporation (most acquisitions are for the team as much as for the product/IP)

TALK: The Future Of Cities

- "displacement of jobs" argument flaws by not acknowledging the unexpected jobs created by growth of the industry (study done where 316/317 expanded), eg the creation of ATMs boosted the banking industry enough to create loads of new jobs for tellers, outnumbering the amount of jobs destroyed by the creation of the new technology.

- investment by governments comes in many forms. sure, china is subsidising and getting involved in a fiscal way, but the governments can start helping startups in other ways—like making it easier to reimagine cities in response to autonomous vehicles by introducing legislation, etc. technology-conscious and embracing politicians are key in accelerating implementation

- Jennifer Granholm is a tech-conscious politician who is very forward-looking, and it's crazy to think that if she's in power, as well as intelligent scientists, so much progress could be implemented and scaled to change real lives so quickly.

Avalow—self-watering plants for urban consumers.

why was the pitch good/bad?

didn't really explain what the problem was very clearly
too conversational

it's clear when you didn't expect a slide to be coming up and it looks rookie

when the demo doesn't work it looks awkward *only if you make it awkward*—people understand that demos are hard and can fuck up, so if you deftly and charismatically handle it, people don't really pay attention to it

timing was woefully off and so she had to skip a few slides which looked pathetic and rookie

when something (timing, demo) went wrong, she got flustered and it made her more rushed and worried when it came to questions, so the demo fuck up, which in itself, no-one really cared about, led to several other fuckups which *did* have an impact

what was the product good/bad?

a trivial product just makes me lose interest immediately

what do investors asked and what do they care about?

- how proprietary is the self-watering technology?
- what are your COGS?

how did they come up with/see the problem?

how would I solve it?

Criam

why was the pitch good/bad?

visibly nervous when pitching, audience just thinking...bro, relax man we're not judging

you had a structure explanation on the slide explaining technical details and science...neither investors nor audience cared or really even read that typos or bad design just makes design look foreign and rookie—UX cannot propel your deck, but certainly can hold it back

what was the product good/bad?

good to make it clear up front what makes them special—80% cheaper, portable, and explanation of why these traits are so crucial for a product like this

what do investors asked and what do they care about?

- what's the distribution strategy? what do they do with existing infrastructure?
- by traction, do you mean formal working partnership or just LOI?
- how far are you into FDA approval?
- what are the outcomes of the competition? how close is their performance to your IP?
- why do you need funding?

how did they come up with/see the problem?

how would I solve it?

LifeCouple—app to offer relationship counselling for difficult relationships.

why was the pitch good/bad?

he spoke with incredible purpose—speaks very seriously and speaks with intensity—like you do when you're talking about something morose like a family member dying, and that really triggered a response that made you take him seriously because that's your visceral instinct.

he breathes with absolute conviction—very impressive, would be amazing if he was actually competent and turned off the intensity from time to time

what was the product good/bad?

no matter how much technology you throw at relationships, human love is so multivariable, your app is just throwing numbers at couples.

using an app to help your marriage just makes you feel pathetic...hard to imagine anyone ever using this.

150 users just sounds a bit pathetic, making it harder to take seriously.

what do investors asked and what do they care about?

- how exactly does this work?
- aside from current users, what other KPIs are you tracking?
- do you have experts in family counselling on the team?

how did they come up with/see the problem?

personal marriage problems

how would I solve it?

go-to-market strategy: how do you reach customers in the beginning; social media marketing, partnerships and existing relationships with with certain companies.

StrattyX—Harvard CS senior making custom trading tools for everyday investors.

why was the pitch good/bad?

starting with a meme/joke/screenshot

telling people that you're a college student/young automatically make it harder to take you seriously—if you demo an amazing product then at the end stun everyone by telling them you're 18, you play it up and get more attention.

financial tech is inherently confusing, and so the product itself was a bit opaque and not understandable to the layman

what was the product good/bad?

“easy to use” is not a good differentiation

spending \$0 on marketing but having loads of people on waitlist is impressive

“wix” for algorithmic trading, these analogies are useful to give people intuition for an otherwise complex business

what do investors asked and what do they care about?

- tell us more about your beta results
- how did the X people on your waitlist hear about you?
- what are you developing—what direction is the software heading in?
- what's the mission—what do you want to be doing 10 years from now?
- what's your go-to-market strategy and how do you plan to acquire customers?
- what's fundamentally hard about what you built? why can't JPM or Goldman just put some money into this and put you out of business?

how did they come up with/see the problem?

obsessive interest in algorithmic trading growing up and then opportunity spotted deep in the waters of experimentation.

how would I solve it?

Greyparrot—computer vision for smarter sorting of waste.

why was the pitch good/bad?

is you skip slides either just go with it and make it seamless or make a joke of it so it isn't awkward showing lots of demos and examples of visual use cases makes for compelling claim that it'll be useful in the real world

what was the product good/bad?

what do investors asked and what do they care about?

- what is proprietary? ans: models, data collected from partners, custom hardware
- why is your market so wide? why don't you focus on X market specifically first?

how did they come up with/see the problem?

when you're taking a trash tour, working in the industry, or even reading garbology, when you read about the trash sorting inefficiency casually on a small part of one hidden page, you need to realise that it's a crucial bottleneck and the importance of solving it, as well as have the tenacity to stick with it when a solution isn't coming out after lots of research, as well as need to have the existing technical expertise to MVP a vision system to solve it.

how would I solve it?

TALK: The Future of Africa as an Emerging Market

important countries & why

important sectors & why

commercial vs social "impact" investment

exits lacking as a reflector of progress?

mobile only continent

startup battlefield africa (lagos)

reason for industries flourishing is because of order of operations—you need to have logistics and financial platforms in place to even innovate in these other ways

the brute force burn growth fundamentally won't work in africa because there's less VC infrastructure so organic profit will play a bigger role

the panelists fundamentally don't believe that africa will grow in the same way as the valley or south east asia—you just have to show up, be there, talk to people, invest in companies to get it talk to Wale Ayeni (IFC) about african ecosystem after learning more, Olayinka @ Haas

TALK: Staying sticky with Snap

predicts AR hardware becomes consumer sticky in 10 years

he sees streaks as a way to maintain friendship as opposed to people competing to look good, like on instagram

he's a smart guy; emblematic of how you can be a frat bro and really intelligent, and how you can act and behave very differently

when someone passive aggressively stays on a topic pushing you around, just call them out in a light hearted way

in a public interview, it's important to know what you can and cannot say, and deftly handle or step around things, even if in a humorous way

don't be afraid to take your time to think through something to give a well-thought out answer, even if the pause seems awkward, it's not—it's impressive

because access to capital is relatively easy now, it's easy to forget that you need to be very disciplined with how you structure your business model and unit economics

UGC: user-generated content

growth hacking: refers to getting a lot of users in a short period of time

XChain—vision to identify errors in supply chain delivery.

what they're doing

OCR to extract data on what DHL was meant to deliver, and vision to see exactly what they did discover, to remove the need to get people that do error-checking at supplying companies.

they're also building a platform for other logistic app developers to write software, hence "operating system". customers access their tech using their API

how he came up with it

who they sell to and why those people

Conversation with people at Wise, who are working on an entirely digital bank.

what Brex do/how they work

what they're doing, and how they're different to both Brex and traditional banks

how venture capital works with investors pooling money

who they sell to and why those people

fintech as effectively coming up with new business models to exchange capital for easier access and therefore higher efficiency

How are alumni startups doing? What did past winners do? What patterns are there?

Buildink—3D printing houses and large structures in politically unstable zones/natural disasters.

Olho Do Dono—computer vision to weight cows in rural areas.

Promising because you can see how it could broadly go from vision for cattle to other animals, and then maybe make software that is implemented in all farms around the world.

Forethought—AI to sort customer inquiries and suggest answers to minimise customer support.

They went from 5-20 employees, raised 9M series A, launched second product, partnered with some big names.

TAM—total available market; total revenue of all companies in this space/size of market

churn—how many of something that you lose (like customer churn)

—> **what characterises the 5 startups selected for the finals**

—> **what characterises the startup that won?**

BATTLEFIELD FINALS

Traptic

why was the pitch good/bad?

despite mic problems, he went on as if nothing was happening and so eventually people forgot about it and focused on the presentation.

what was the product good/bad?

for some reason, it made sense that you'd automate this. you can imagine how the robot going on 24/7/365 would vastly improve efficiency and output, especially if financially viable—AND would remove the need for hard labour for poor people. also, it fits in with the mental model of utopia—this is definitely a kind of solution you envision when you think of the future. while some startups

what do investors asked and what do they care about?

- what are the economics of deployment in lots of locations?
- what's the cost of building a machine?
- what about maintenance/operational costs?
- how are you going to scale? going from demo to deployment is hard in robotics?
- talk about your sales cycle and what you're doing right now to sell?
- does the tech work in X novel context?

how did they come up with/see the problem?

how would I solve it?

StrattyX

why was the pitch good/bad?

very clear in her answers—knew a lot of data and knew the industry inside and out and so can actually challenge the people asking the questions with counter-arguments.

what was the product good/bad?

lets average user make use of common (but complex) trading algorithms based on their that the big dogs use through a clean interface and simple navigation.

if you give a confusing answer to a question, VCs can simply ask you a yes/no question, exposing your flaws.

what do investors asked and what do they care about?

- how are you classifying X when you present that to users?
- this part of your technology (sentiment analysis) is very difficult—how are you making it work?
- why now?
- what about these X stats that suggest this industry is actually shrinking?
- what's your customer acquisition strategy?

how did they come up with/see the problem?

how would I solve it?

Auriel Wright, AWright@strattyX.com

molecule one—pawel@molecule.one (CTO)

Xchain—logistics AI, albert@xchaintechology.com

Otter AI—Julius Cheng, julius@otter.ai, AI engineer for speech recognition

Render

why was the pitch good/bad?

seamless. no stutter, not going too hard on charisma, but definitely talking charismatically and calmly and letting the user focus on the content. product numbers speak for themselves.

what was the product good/bad?

what do investors asked and what do they care about?

- what's proprietary?
- what's the trade-off between performance and ease of use?
- what is it not good for? who shouldn't use it?
- write your obituary—if you end up failing in 2 years, what will it be because?
- what makes this uniquely possible now?

how did they come up with/see the problem?

how would I solve it?

Orbit Fab

why was the pitch good/bad?

what was the product good/bad?

what do investors asked and what do they care about?

- tell us about the unit economics
- how do you retrofit your parts on legacy products in space right now?
- why hasn't been done it before?
- are you relying on this one partner for all your launches?
- what is the competitive landscape?
- isn't this easy to reverse engineer?
- who is insuring the expensive engineering you're doing on the satellites?

how did they come up with/see the problem?

how would I solve it?

new terms; retrofit—add something to a structure after it's been manufactured

long tail—business strategy where you make money off selling hard-to-find items after initial up front cost, and that's how you really make money (like razors of a shaving product)

OmniVis

why was the pitch good/bad?

what was the product good/bad?

what do investors asked and what do they care about?

- NGOs take ages to pay—where are you getting money?
- unit economics?
- how long does it take for approval? how specific are you?
- are you just testing for cholera or can you do water purity testing more generally?
- what does the market size mean—how did you get that number?
- how are you overcoming A, B problems that are typically hard in this industry?
- how often does your disposable have to be used?

how did they come up with/see the problem?

how would I solve it?

MISCELLANEOUS DISRUPT NOTES

interesting point—> there are awards, journalists, and grantgivers here watching the pitches, looking for people to work with/get onto their program, so an excellent performance won't just get you funding and validity, but also potentially have people come to you with opportunities after seeing you pitch at Disrupt.

all pitches had: niche we're focusing on, how we scale in future, institutions our team has been part of, market size, and certain elements/structures on their pitch deck that all investors would want to know up front, and maybe integrate one or two themes you've seen from questions here in your list.