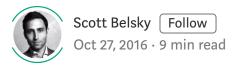
## Five Forecasts For The Future



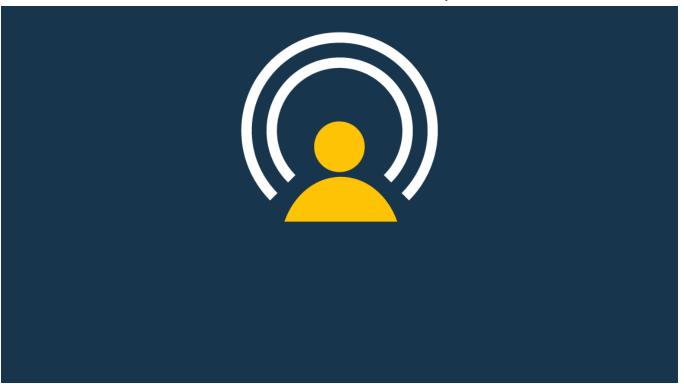
Every now and then, it's a fun and healthy challenge to think distantly. Sure, we already expect self-driving cars, wearable hardware, a connected home, and augmented reality. But where does the foreseeable future take us next? I'm talking more Black Mirror than investor thesis. What new problems will we be struggling with? What will kill us? What will connect us? While solutions change, some questions will always remain. If only to stimulate discussion among friends, here are a few forecasts on my mind these days:

#### 1. Social media will become passive.

- 2. Our (augmented) reality will be a land grab, and always be under attack from brands.
- 3. Interfaces will compete with the technology underneath.
- 4. Autonomous vehicles in cities will become a public utility.
- 5. We will transcend "tragedy of the commons" with technology that aligns selfinterests with community benefits.

Allow me to explain, as well as share some implications for each:

## (1) Social media will become passive.



The concept of actively "posting" or "sharing" will be frowned upon and entirely replaced by a passive stream of your life's experiences, whereabouts, and media consumption. Imagine a 24 hour channel of you that is authentic, aways live (or automatically programmed), and always accessible to your friends (or if you're born in the age of transparency (post year 2000), accessible to anyone). Any effort to actively post something will be seen as "manual editing" and will be perceived negatively unless it is an artistic statement. Quality will be community and algorithmically-determined, surfacing the highlights of your experience in a way that is automatic and thus deemed more authentic. Implications?

- So many social products and new forms of advertising will emerge to accommodate *the era of passive social*. Viral growth of new products and media will happen more naturally based on how many people are tuning into you. Simply, whatever you're doing or consuming is what other people will discover.
- Typical forms of paid user acquisition will become obsolete, replaced by product placement and "experience placement." The prices you pay for products and services in your life will be offset by the exposure you bring. The bigger your network (and the better your "CFV" (Conversion From Viewers, a measure of how actionable your content is for those that follow you), the less your life will cost!

- I am struck by the idea of trusting automation over what someone does manually. It's the evolution of how we are drawn to inferior photos on Snapchat in a more primal way than carefully posed and edited photos on Instagram. *The objectivity of algorithms over the subjectivity of human tendencies may cause us to "trust" algorithms more.* We value an unedited photo and "collective intelligence" for the same reasons they make us less paranoid that we're being lied to (and thus help us believe and relate). With the loss of "manual editing," social media will become a more effective form of empathy and truth.
- Given the passivity of social networks, their relevance will rely on context. Social networks will pop into and out of our life depending on where we are, what we're doing, and what we want. Visiting Spain for Christmas? Expect to have "contextual ephemeral social networks" (sorry) that enable you to navigate, connect and plan activities with other friends in Spain during the week you are there. When the trip ends, the network will dissapear.

# (2) Our (augmented) reality will be a land grab, and always be under attack from brands.

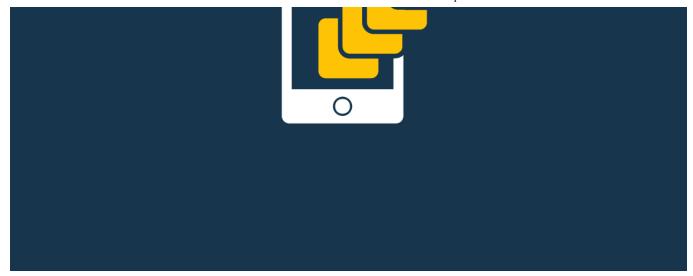


Personally, I'm more bullish about augmented reality than virtual reality. The augmented layer opens up a ton of exciting (and horrifying) ways for brands, friends, governments, and artists to get in your line of sight based on where you are and when you're there. Quite quickly, I see it getting out of hand. While the physical world has practical limitations that keep billboards at bay, the augmented world won't. To get a feel for how bad this could be, check out this video. Implications?

- Perhaps "ad blockers" will be the most important apps in the era of augmented (and virtual) reality? Whatever platform and device you use to augment your reality, advertising is the most likely business model. If the increasing number of paid search results in a typical Google search today is any indication, your augmented reality will constantly be under siege. To fight it, you'll install intelligent or crowd-sourced filtering software that will override unwelcome parts of your augmented reality experience.
- Perhaps the major platforms for augmented reality will designate certain zones as commercial or non-commercial? Zoning has worked well enough for governments. I can see your home and all other private property being designated as "non-commercial," and thus off-limits to advertising. If Snapchat's filter submission and approval system is any indication, augmented reality will be an unprecedented land grab akin to the domain-name craze in the nineties.

### (3) Interfaces will compete with the technology underneath.





A few years ago I shared my excitement for the "interface layer: where design commoditizes tech," and how superior interfaces will aggregate multiple services underneath. In the future, we will want fewer interfaces in our lives — and these interfaces will integrate all sorts of utilities into a simple flow. Examples?

- Modern **interfaces will revolutionize how we plan our day** by aggregating the disparate services we wish to schedule, from rides and food to babysitters, into a single interface. The underlying providers of such services will compete for presence in the interface, based on price and revenue share with the interface itself.
- The interfaces we use at work will become customizable. People will be able to choose and customize the "skin" for the tools they use in the enterprise.
   Consumerization of enterprise technology will bring us to a place where productivity and employee morale is meaningfully higher when interfaces are user-friendly and custom.
- Interfaces will **change the way we get customer service** from companies and governments, negating the need to interact directly with cable companies, utilities, or government websites. The interface companies will monetize by proactively suggesting optimizations to your plans (saving you money) or offering premium ways of saving time. These modern interfaces will empower customers and citizens by stripping away the benefits of friction enjoyed by providers (companies and governments rely on how damn difficult it is for us to do certain things!).

• And for the left-field prediction, an entirely new mobile operating system will emerge that is location-centric rather than app-centric. In a modern world where we want fewer interfaces with interconnected functionality, it is time to rethink mobile. Functionality should be visible and then hidden based on where and when we are, rather than what apps we installed. In fact, apps shouldn't exist. Whatever we need (whether we know it or not) should be at our fingertips, and (no surprise) our voice command should summon anything we want.

The biggest implication of the emerging interface layer is ruthless competition to be the default. The utility-based providers underneath these interfaces will be pressed on margins and will compete to be the default provider in the interfaces we use on a daily basis. To survive, the providers will focus more on optimizing the cost-efficiency of their services rather than spending money building their brand and relationships with customers.

### (4) Autonomous vehicles in cities will become a public utility.



When (not if) all transportation within a city's limits becomes automated and increasingly regulated, cities will rethink infrastructure and public transportation. Some cities already see Uber as a solution to "last mile" transportation quandaries. Perhaps planning and scheduling software for public transportation becomes more important than the commoditized technology in the vehicles themselves. Perhaps transportation will join the ranks of water and electricity? Implications?

- A whole series of questions emerge: Will on-demand and autonomous transportation data become a public asset? At what point will mass transit adopt autonomous vehicles and become completely automated? Will the future of mass transit be operated by governments or private companies? Will companies that create technology to plan and schedule mass transit for government (like Remix Software) commoditize the tech that performs the transportation? As an Uber investor, i'm mixed about this, but I believe Uber's dataset alongside its advances in autonomous technology will be its moat.
- On the topic of autonomous vehicles, I was thinking the other day about the consequences of preset routes and what would happen when vehicles "disobey." Call it a CGW "car gone wild" when a vehicle, with or without passengers onboard, begins to roam either out of bounds or off the set schedule or route (attention Black Mirror writers!). Perhaps the vehicle was hacked? Or perhaps conflicting instructions around traffic conditions or passenger destinations, coupled with artificial intelligence, take the vehicle on an unexpected course. Ultimately, government safety officers must be equipped to control anything that runs automatically.

# (5) We will transcend "tragedy of the commons" with technology that aligns self-interests with community benefits.





The "tragedy of the commons" is the unfortunate human tendency to take advantage of shared-resources out of self-interest, thus depleting the benefits everyone could enjoy through collective action. Back in the day, farmers would take their livestock and selfishly deplete the town commons before returning to their own lands (which they would sustain thoughtfully). If everyone just agreed to graze the commons sparingly, it would last and benefit everyone. But self-interests obstruct the common good. People who abuse insurance spike prices for the rest of us. People who cheat taxes cause the rest of us to pay more. Through increased transparency, networks, and artificial intelligence, technology will enable us to collectively regulate and align our interests. Implications?

- Any product or service that bakes in a cost for "bad actors" can be transformed. The
  way we buy insurance, get mortgages, and pay taxes may change once we can
  unbundle the costs and align our interests with larger groups of likeminded people.
  Would you pledge to eat healthier to lower your health insurance premiums? Would
  you pledge to drive safely and disclose the speed of your driving for cheaper
  insurance? As technology permeates our everyday actions, you'll have the option of
  surrendering a degree of self-interest for lower prices.
- Social networks will reduce the frequency of abuse and trolling through new tools powered by human curation and artificial intelligence that diminish the reach of bad actors. If you troll or fail to participate in the collective efforts to protect the

platform, your voice will be heard less. To be anonymous and still be a steward of the medium is the future of freedom of speech.

- Your reputation will become portable, recognized and rewarded beyond the brands and governments from whom you earned it. If you have a history of over-using customer service or being an outlier on the cost curve, you may not be eligible for better pricing.
- Collective bargaining networks will become the default source for certain insurance and financial products. Bartering and "favor based" economies will become more mainstream as equality can be tracked.

#### What to do with forecasts?

Forecasts for the future are not an investment thesis. The future won't happen until the present is ready for it. One of the things I've learned from the partners at Benchmark is just how important it is to invest with a tremendous insight into the present. But for a seed investor, product leader, or entrepreneur, forecasts for the future add a new lens to pattern recognition. Aside from what I look for in a founder, team, and product, I try to determine whether the future is a headwind or a tailwind for a company. Is the team attempting to defy a likely outcome or make it happen in a better way?

If nothing more, considering the future exercises our imagination and sparks conversation and debate with people you can learn from. Bring it. ;-)

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Special thanks to Raewyn Brandon for the excellent illustrations.

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