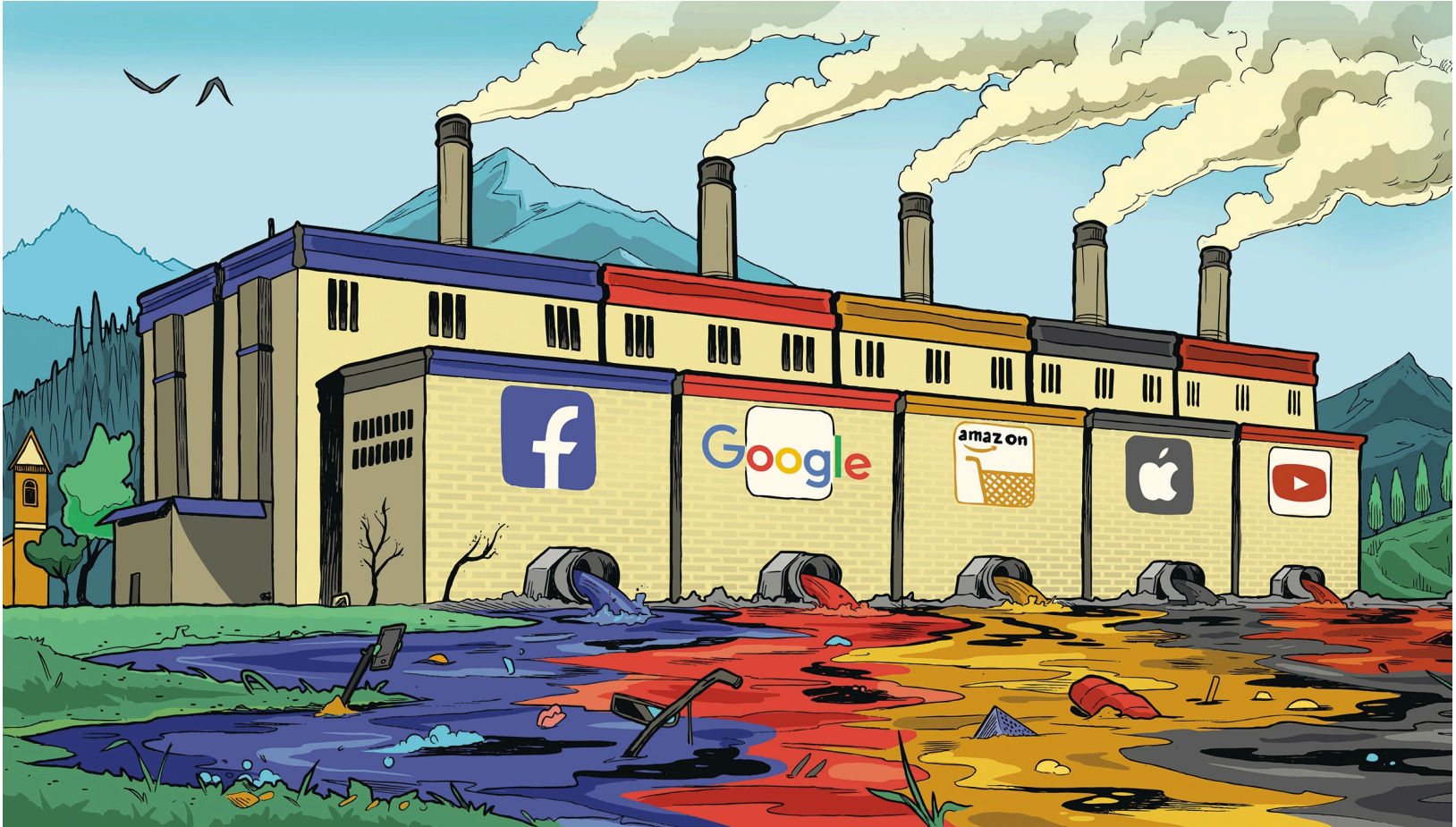


Facing Up to the Consequences of Digitization

Nick Sirotek Washington Monthly



Judy Estrin, CEO
JLABS

- **Digitization: As Profound as Industrialization**
- **Acknowledging Digital Pollution**
- **Our Role as Technologists**

Background

ACADEMIC & NON-PROFIT

Computer science:

- UCLA
- Stanford
- Early networking research

KQED

Advisory work

ENTREPRENEURIAL

**Bridge
Communications**

NCD

Precept

Packet Design

EvntLive, Inc.

Mother!

CORPORATE

CTO, Cisco

Board member:

- Disney
- FedEx
- Rockwell
- Sun Microsystems
- Medium

Growing Concern

- JLABS: 'work lab' for leadership, entrepreneurship, and innovation
- Current focus: impacts of tech on democracy and society

2008: Ecosystem off balance

[*Closing the Innovation Gap*](#)

2014: Consequences of digital services

[*Balancing our Digital Diets*](#)

2016: This is Serious

[*Authoritarian Technology, Digital Pollution*](#)



Our Lexicon

Hacking SCALE Data Driven
Speed Digitization
Track/Measure Disruption Optimization

In the service of :

Productivity ... Progress ... Convenience
Efficiency ... Growth ... Ease of use
Profitability ... Impact ... No friction

At what cost?

Power of Digitization

Enterprise decision-making

- Improve products/services
- Customer satisfaction
- Employee contribution

Profit (and Fundamentals)

Internet/web

- Consumer outreach
- Content distribution
- Individual adoption

Growth

Total infusion of content, processes and behavior

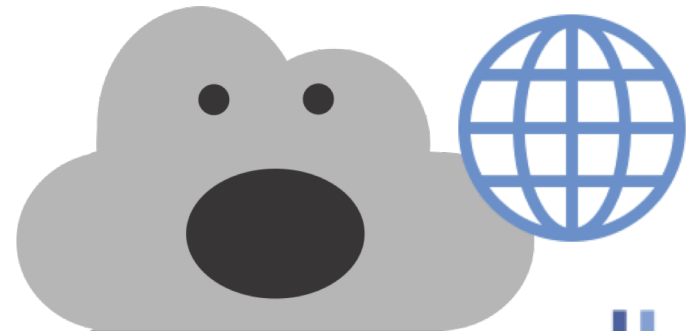
- Consumers as users
- Employees as assets
- Convenience as a value

Momentum



Paradigm Shift: Tech and Culture

- Social, mobile, cloud, sensor/Internet of things, AI
- Technology enables scale, scale drives tech advantage
- “Bicycle for the Mind” → Software Eating the World
 - Open internet/www → **walled garden**
 - Platforms and network effects → **consolidation**
 - Business model shift to ‘free’ consumer services → **power imbalance**
 - Co-opting ‘peer-to-peer’ distribution, community, and personalization → **Data/knowledge = power**
 - Creative disruption → **Narcissistic disruption**
- Sense of inevitability; tech on a pedestal



Unintended Consequences and Consequences of Intended Use

- **New Techniques**
 - People become users
 - Gamification
 - Predictive AI curation/recommendation
 - Micro-targeting: Madison Avenue on steroids
- **Extreme Agile Methodology**
 - Fragmentation, MVP, iteration
 - Move fast (and break things); easier (better) to ask for forgiveness then get permission
- **Maximizing scale/speed - hierarchical, homogeneous environments**



Mantra – “Make it Frictionless”

- **Industry focus on growth**
 - Automate everything
 - Remove barriers for content and users
 - Engagement/addiction
- **Human desire for convenience – what we want now**
- **Freedom vs freefall – friction avoids hard stop**
 - Rules and norms – guardrails
 - Impulse control
 - Work through relationships
 - Tolerate boredom, effort/pain
- **Risks of unbridled capitalism amplified by scope and pace**
- **No-friction addiction**

Not Just a Privacy Problem

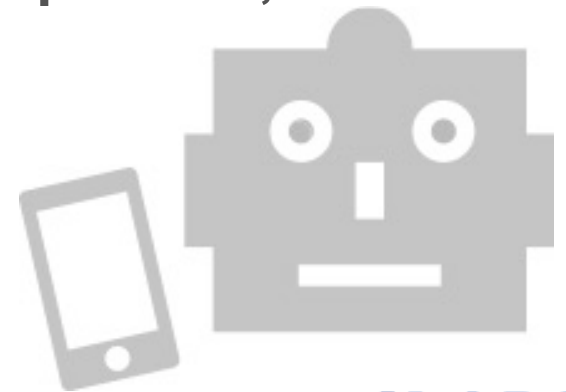
Economic, cultural, intellectual and emotional health, democracy, national security..

Interplay with inequality, future of work, planet

- Loss of data privacy – theft, micro-targeting
- Addiction
- Mass manipulation – marketing and bad actors
- Sensationalization – yelling louder to be heard
- Filter Bubbles
- Anxiety, fear – FOMO, FOLESS
- Fragmentation – loss of context and trust
- Flattening connectivity and communications – loss of nuance
- Amplifying ‘dark side’ of human nature – loss of dignity
- Propagation of bias through biased data

Less Obvious

- **Degradation of intellectual and emotional capacities**
- **Personal agency**
- **Critical thinking – Trust and Mistrust**
- **Personal authority – AI taps into our behaviors and tells us what we want and how we think**
- **Digitization of everything - including us (1 or 0, black or white)**
- **More open to authoritarian leadership – political, professional, social, religious**



Impacts Not Just On Individual

- **Democracy = access to information/common facts + ability to deliberate**
 - Polarization - against, Fragmentation – loss of context
 - Alt-reality – do facts exist or matter
 - Misinformation, disinformation (social distribution, memes, image manipulation, deep fake)
- **Critical problems require system thinking and collaborative action**
 - Simplification – loss of nuance
 - Instant over deferred gratification
 - Solutionism – only focus on things that have clear solutions. Role of singular focus of entrepreneurship
- **Organizational problem solving has similar requirements**

Core Values: Capacity for Change

Questioning

Curiosity, self-assessment, non-judgmental, free flowing

Risk

Vulnerability, attitude toward failure, fail early, learn from failure

Openness

To imagine, new data, sharing, surprise, change

Patience

Tenacity, patient capital

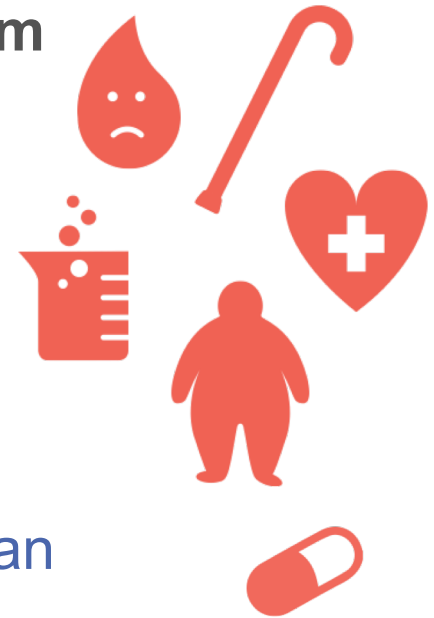
Trust

In oneself, in others, safety net (bankruptcy, healthcare, education)

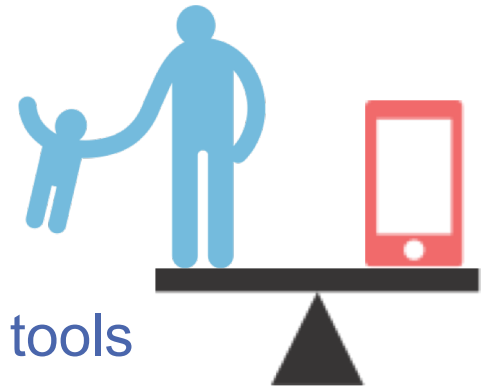
Values need to be in balance

Time to Take More Seriously

- Calls to action: [Surveillance Capitalism](#), [Zucked](#), [Who Owns the Future](#), [Anti-Social Media](#), etc.
- Industrial pollution: model of societal problem
 - Recognition, understanding, resources
 - Environmental sciences inform the process
 - Debate of trade-offs, values
 - Measure, assign cost to harm
- Digital pollution
 - Paradigm shift – existing rules and framing can be misleading
 - Accelerated pace. Hard to keep up
 - Value and harm are often the same



Addressing Digital Pollution



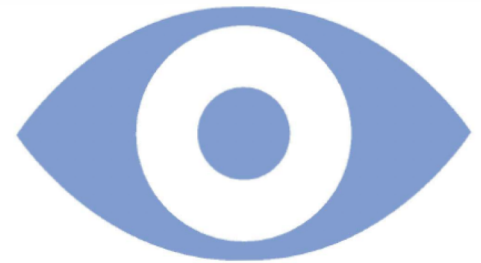
- **Mitigate and protect the vulnerable**
 - **Empower** people with **information** and tools
 - Demand **incremental** change from **industry** - data privacy, speed bumps, bots/deep fake, addictive techniques
 - **Enforce/adapt** current rules where applicable
- **Change relationship**
 - Market dynamic - competition
 - Field of research (and ability to test new ideas)
 - Increased tech capability in government and civic society
 - Checks and balances (as with other industries Energy, Tobacco, Pharma, Food...)
- **Opportunity - human centered technology**

With Power Comes Responsibility

- **Individually and collectively complicit?**
 - Digital filter bubbles and psychological ones
 - Reflect on assumptions of tech/business culture
 - Unconscious intentionality
 - Explicit and implicit values and biases encoded and amplified in AI algorithms and data
- **Serious thinking around ethics, starting with values – can't just be a box to check**
- **Implications of 'blowing things up'**
- **Keep people at center – as individuals and society**
 - Human (vs user) rights
 - Economic growth in service of well being
 - Balancing power requires ongoing vigilance

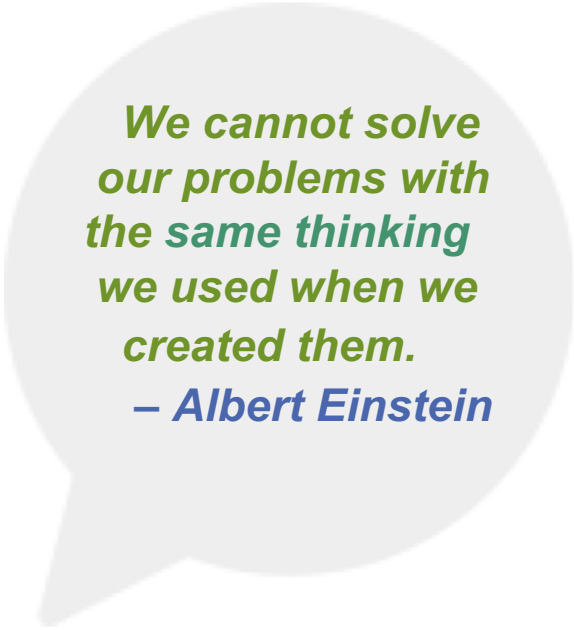
Myopic Metrics

- **We manage what we choose to measure**
- **Need a different approach for measuring harm (much harder)**
 - Potential harm – where to look
 - Early detection is hard at scale – outlier vs. early signal
 - Interrelated issues
- **Balance focus/simplification and nuance/learning**
 - Metrics to drive incentives and behavior
 - Measurement for understanding



Tech Alone Can't Fix It

- **Tech at the table, not dominating the table**
 - 'Tech optimism'
 - Natural tendency to project leaders values – 'Dataism'
 - Harder for those in power to question
 - Need counterbalance to industry ecosystem - policy, social sciences...
- **Zoom-in, zoom-out**
 - Look beyond what we can solve now
- **Friction: sacrifice some speed for intentionality**
 - Design choices, e.g. news feed, maximum data collection and level of aggregation



*We cannot solve
our problems with
the same thinking
we used when we
created them.*

– Albert Einstein

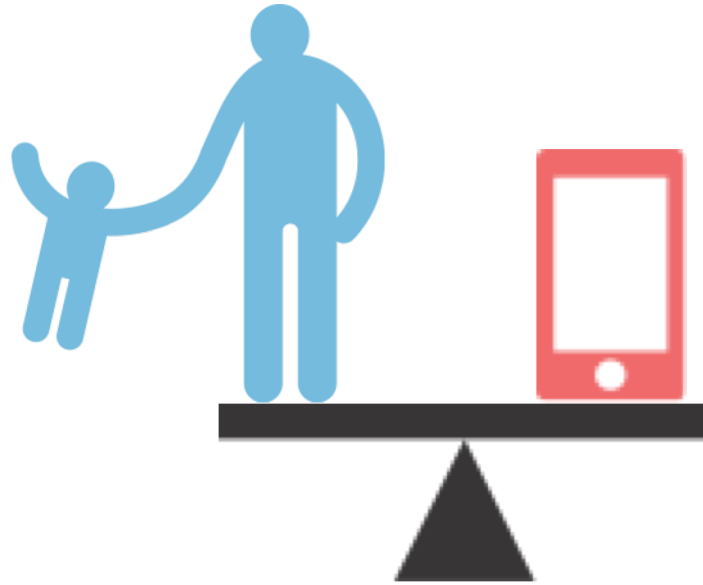
Rethinking Scale and Speed

- **Organizational and system design**
- **Pattern recognition enables and restricts**
- **Cost of ‘formulaic’ methods**
 - Trust
 - Diversity
 - Power balance
- **Evolve vs eliminate institutions**
- **Real community, dignity, reciprocity**
 - Scale for deep trust (180 people vs 180 characters)
 - Interconnect for power and common action



Who are we serving?





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