Geek Heresy by Kentaro Toyama

Prologue — Introduction

- The focus on social change should always be on people, not technology.
  - *The road to hell is paved with good intentions.*
- There is a distressing contradiction in how companies operate: what matters most to the company is capable people but they market that the technology is what matters most.
  - *I agree with the message but disagree with the idea that there is a contradiction: capable people create good tech. Tech matters most for companies the entire way.*

> a recovering technoholic

> Talent is universal; opportunity is not.

> Inadequate theories of technology don't hold together in the rough waters of cultural contrast.

> modern technocratic psyche

> Brilliant technology is not enough to save us from ourselves.

Chapter 1 — Conflicting Results in Educational Technology

- Incorporating technology in education doesn't mean jack squat if schools don't have the infrastructure to manage it.
  - *Experience from Nepal: people kept sending school in Lalu Village computers, but they didn't have the infrastructure to power them and so they gathered dust in the closet.*
- One Laptop per Child didn't change anything.
  - Computers can supplement good instruction, but they will never substitute time with real teachers.
- Technology can be a distraction from real solutions that actually change schools for the better.
- A good solution for the generation who grew up with tech: teach them with their own language.
  - Invent computer games to teach them.
- Mitra's Hole-in-the-Wall project was held in high esteem and received many awards; when visiting the sites of the implementation, no one used them or cared about them.
  - *How many other ICTD projects are the same?*
- Having access to tech doesn't help any more than having access to textbooks.

- Technology use and test scores are not correlated.
  - *This argument only works for a population with both motivated and unmotivated individuals; if we only focused on one of these subsets, I'm sure there's a huge correlation.*
- Wise parents want adult supervision in education, because they know that that's what really matters.

Technology never made up for a lack of good teachers or good principals.

digital immigrant parents

empty sloganeering that collapsed under critical thinking

In some cases, technology does help — but not with the consistency required to fix large social problems.

Chapter 2 — The Law of Amplification

- **Technological Determinism** — implies that technology determines social outcomes.
- **Technological Utopianism** — "the best thing anyone can do to improve the quality of life around the world is to drive connectivity and technological opportunity."
- **Technological Skepticism** — points out the unintended consequences of technology.
- Both utopians and skeptics share the belief that technologies embody moral and political values.
- **Technological Contextualism** — technology outcomes are context-dependent.
- The majority of development projects done by Toyama in India fell into a middle ground where they succeeded as research projects, but benefits beyond were limited.
- Communities must have the desire and ability to take advantage of technology provided in order for the project to succeed.
- **Social Determinism** — people act and make decisions — technologies do not.
- What people get out of tech depends on what they can do and want to do without it.
- TECHNOLOGY'S PRIMARY EFFECT IS TO AMPLIFY HUMAN FORCES.
  - *After 3 years of experience, I definitely agree with this now.*
- **Law of Amplification** — technology amplifies existing conditions.
- **Knowledge Gap Hypothesis** — public-service messaging delivered through mass media was better absorbed by wealthier, more educated households.
  - *What exactly does "better absorbed" imply? More accurate interpretations? What about rural locals in India who "absorb" rumors about foreigners?*

> …the initial optimism that surrounds technology, the doubt as reality hits, the complexity of outcomes, and the unavoidable role of social forces.

> A generation ago, when young people said they wanted to "change the world" or "make an impact," they joined the Peace Corps. Now they move to Silicon Valley.

> The right people can work around a bad technology, but the wrong people will mess up even a good one.

Chapter 3 — Dispelling Misguided Beliefs About Technology

- Technologies allow people to do more of something they've always wanted to do.
- Common solutions to fix local systems is to introduce some new Web portal or something, but if the staff is disorganized and demotivated, no tech can help.
- **Selective Exposure** — internet users can seek out interactions with people that agree with them and minimize interactions with those that don't.
- **Digital Divide**— describes unequal technology access between entities.
- Low-cost access to tech goods is not democratization; in a real democracy, it's one person one vote. In a free market, it's one dollar, one vote.
- If you gave a laptop to a college student and to a villager in Uganda, telling them that the goal is for each to try and make as much money as possible with it, more often than not the college student will win because of education, connections, social network, etc.
  - Same tech, different people.
  - The tech is fixed, but the outcomes differ in proportion to the underlying advantages.
  - Tech can widen existing disparities!
    - *This is the point tech ethics misses!*
- We can predict a technology's success by understanding how humans work on a psychological level.
- Technology can widen existing disparities.
  - If the rich get better tech that the poor won't be able to have access to, the gap will widen even more than today.
    - *Homo deus*
- Unintended consequences of tech spring from unpredictable people.
- The responsibility is on us!

> When technologies go mainstream, it's because they help scratch itches that people already

> have, not because they create new itches that people don't work.

> There is no technological keeping up with the Joneses.

> Good design is the art of catering to our psyches.

Chapter 4 — Technology as an Exemplar of the Packaged Intervention

- **Packaged Intervention** — any technology, idea, policy, or other easily replicable partial solution meant to address a social problem.
    - *Concepts like "effective altruism" seem to encourage this sort of thing. What does Toyama think of this movement? Hans Rosling and others emphasize this. Paul Farmer's ideology is more similar to Toyama's.*
- Microcredit is a great example of a partial solution — it only works when the borrowers have a high capacity to grow or start a business.
    - Many borrowers will use the loans to pay off other debts instead.
- Elections are another example; democracy is much more than just voting.
- In a development project, the key players are:
    - Leaders, or the researchers who developed the technology.
        - Those in power need to be morally sound!
    - Implementers, or the teachers who applied the technology.
        - They execute a packaged intervention and must be on the ground, talking to people.
    - Beneficiaries, or the students who used the technology.
        - Leaders and implementers often overestimate the desire and/or capability of beneficiaries.
        - Motivation needs to be focused on as well!
- **The Iron Law of Evaluation** — on average, large social programs show no impact.
    - Bad program design and faulty implementation.
    - **Pilotitis** — in which social programs seem to do well in pilots, but fail at large scale.
    - *Is there an actual metric to measure this?*
- The US spends between 2 to 840 billion dollars on IT for the developing world.

> ...empathy cannot be packaged, and it doesn't increase with the size of an intervention.

> Human virtues can't be packaged.

> Modern society fetishizes technocratic devices, but it's a human finger on the on-switch and a human hand at the controls.

Chapter 5 — Technocratic Orthodoxy

- Trends attributed to technology often have pre-digital starts.
- Randomized Control Trials (RCTs) are another example of a packaged intervention.
  - Claims of their success have pre-digital starts!
    - These starts won't be mentioned in papers.
  - Excels at comparing packaged interventions against one another.
- Problems of external validity occur when the results of an experiment (like RCT) can't be generalized beyond their immediate context.
- Social enterprises don't work either; they prioritize profits!
  - They also distract from actual non-profit solutions that DO work!
  - They claim that they do social good, but they're even measured and tested on business-based metrics, not social change!
  - *As much as I agree thus far, I feel Toyama is too pessimistic about the nature of developers (re. The experience with Into Your Hands Africa).*
- **Moral Self-Licensing** — people using past good deeds they've done to excuse not doing future ones.
  - This is the harm in implementing a half-assed social enterprise like Tom's.
    - It's just enlightened consumerism at its core.
- Packaged interventions are popular because they are easy to count, and society loves measurable metrics; but we can't just focus on numbers, or we'll just concentrate on bringing those numbers up without considering underlying problems.
- Enlightenment values prioritize a tech-based orthodoxy, and that needs to stop.

> If you conduct experiments entirely in air where institutional capacity can be taken for granted, then you don't know how the intervention would run under water, where capacity might not be present.

> A single methodology cannot be the sole paradigm for determining what's right for social change.

> What's the point of a metric that increases while so many people are miserable?

> **medem agan** — nothing in excess.

Chapter 6 — Amplifying People

- Telecenters don't really work by themselves; operators don't have the marketing skills to sell the services, and customers saw little value in impersonal, person-less learning.
- Digital Green used videos of local farmers so the audiences could identify with them and they had an active mediator to provoke discussion.
- 3 Habits of Highly Effective Technology Use:
    1. Identify or build human forces that are aligned with your goals.
    2. Use packaged interventions to amplify the right human forces.
    3. Avoid indiscriminate dissemination of packaged interventions.
        - Focus on area of expertise.
- Seek the right partners! That's how large scale projects work.
    - The technology must piggyback on human forces.
    - *IMPORTANT*
- Identify existing trends and build upon them with packaged interventions.
- The best partners have heart, mind, and will.
    - These need to both lead to and complement the packaged interventions.
- Keep asking - what positive forces should be amplified?
    - And what negative ones should not?

> The stronger the partner, the better use they make of [the technology], and the greater the impact… success at large scales is entirely dependent on the presence and reach of good partners.

> Technology at school may level the playing field of access, but a level field does nothing to improve the skill of the players, which is the whole point of education.

> Technology by itself only increases the gap between the haves and the have-nots.

Chapter 7 — Human Development Before Technology Development

- Even if newer jobs for the underserved pay less than their older jobs, their growth potentials are a lot higher.
- With packaged interventions, a social aim can still be achieved if the intervention is paired with training.

- - **Capacity Building**!
- **Expanding Circles** — it's good to care for oneself, better to care for family and community, even better to care for country, and best to care for humanity as a whole.
- Social shifts must proceed any other intended change.
- To make change, you must have good intentions, a good foundation of knowledge, and enough self-control to persevere and judge the right decisions.
- **Intrinsic Growth** — progress in intention, discernment, and self-control.
  - The controllable cause of packaged interventions.
- Statistics prove that girls' education is the closest thing to a silver bullet in the fight against global poverty.
- Education provides more than learning math or reading — it's about the transformation in heart, mind, and will.
- People are more likely to reach their goals if they believe that greater effort matters.
  - *…really? See: Maslow's Hierarchy.*
- Invest in people, and sustainability will follow.

> …there's a tendency to think of education as simply the ability to read, write, and do arithmetic, when an effective education involves so much more than academics.

> Learned helplessness

> Changing intentions is hard to do, but it's the heart of social progress.

> Cultural capital

> Life is continued schooling.

> an extended marathon of self-control.

> High-tech temptation

> The mind is not a vessel that needs filling, but wood that needs igniting.

> Education is the one thing that no one can take away from you.

Chapter 8 — Hierarchy of Aspirations

- Social causes need people who, leading or following, put in lots of time and resources for the sake of others.
- Plant ethical seeds in education and watch them bloom later in the students' lives.
- Slowly — gain experience, gain confidence, and build up a supportive network.
- When basic needs are met, intentions and aspirations change and social change can be prioritized.
- Aspirations are rarely discussed by technologists or policy-makers.
  - *Re-read Sachin's paper on this.*
  - "How do we encourage people through transformational internal epiphanies?"
  - "What makes a person intrinsically motivated for the large social good?"
  - Use developmental psychology instead of casting individuals as single-minded, static adversaries to be manipulated.
- Maslow's Hierarchy of Needs is accompanied by a Hierarchy of Aspirations.
  - This hierarchy can go up or down and allows people to sacrifice lower needs for higher.
  - People have multiple needs at once and behaviors are multi-determined.
  - **Self-transcendence** — the good of other people.
    - The top of the Hierarchy of Aspirations, followed by self-actualization (which is motivated by a more selfish mastery/enlightened self-interest).
  - The Hierarchy of Aspirations can be seen as a ladder of maturity.
- What's missing in today's perceptions of social change is any notion of intrinsic human progress.
  - A framework of individual human betterment is required
  - *Agreed. Our perception of "them" is misguided.*
- Dominant voices in public policy model people as having the same fixed preferences.
  - We have to think about causing long-term changes in society through growth in individual character.

More intrinsic growth is the root controllable cause of all positive social change, whether you start poor or rich, oppressed or oppressing, powerless or powerful.

Aspirations urge us forward in the epic human quest against complacency.

Societal Development and Mass Intrinsic Growth

- Most, if not many, have a sense of purpose that goes beyond profit.
- World Values Survey reveals that:
  - People's priorities shift from traditional to secular and rational values as they feel they have security from external forces.

- - People's priorities shift from survival to self-expression values when they feel they have more control over their lives.
  - People need to feel secure in order for their worldview to be shaped differently.
- The reason behind India's high-tech economy is not necessarily foreign investment or English-speaking locals, but the fact that India has spent decades cultivating engineers through IITs.
  - *Is this not the same logic companies like Google use when they have massages and chefs for their employees?*
- **Brain Circulation** — brilliant locals who leave to study abroad and come back to share their newfound knowledge and work towards cultivating their original communities.
  - Microsoft Research India started because of this!
    - Also promoted a workplace culture of social norms that influenced the next generation.
      - Not saying "Sir" for instance.
        - *Same thing happened in first weekly meeting.*
- **Creative Class** — the scientists, engineers, artists, musicians, designers, and knowledge-based processionals who are paid principally to do creative work for a living.
  - They command half the wages of the US workforce, control many powerful institutions, and design the form and content of goods.
- People are going from being motivated by money to being motivated by passion.
- Maslovian aspirational development correlates with national socioeconomic growth.
- Many development projects aim to improve a superficial condition rather than bringing about deeper change.
- **Compassionate Class** — while the creative class represents self-actualization, the compassionate class should represent self-transcendence.
  - A society of self-sufficient, altruistic individuals aiming to encourage intrinsic growth in themselves and others.
    - As opposed to the self-serving way we do it today.

> There's something in the human organism that compels us to aspire beyond survival and security when conditions are right.

> What happens to people's desires when there is plenty of bread?

> Whether democracy takes root seems to depend on the strength of self-expression values far more than on simple habituation through living under democratic institutions.

> Even the best-designed institutions need a compatible mass culture.

> While a self-transcendent world is not a sure thing, it is something to work toward.

Mentorship as a Social-Cause Paradigm

- Mentorship is one of the best ways towards facilitating intrinsic growth.
- Acknowledging the disparity in social status between the mentor and mentee is essential.
- Mentorship should prioritize the aspirations of the mentee.
- Both sides in a mentorship should have the option to opt out.
- In mentoring communities,
    1. Articulate their aspirations (**Aspiration Assessment**).
        - If they can't, awaken them by pointing out their strengths.
        - Overcome their complacencies through gentle but frequent engagement.
        - Help meet the need for the aspiration, don't just provide them with the desired goal.
        - What does the community /want/ to do?
    2. Increase the community's capacity.
        - Avoid doing work for them — facilitate!
        - Provide gifts in the form of in-person time, energy, and expertise.
        - Work in the service of the community learning something new.
        - Work towards a point where the community can acquire their own funding.
    3. Stick with them until they're pretty much autonomous.
        - Provide packaged interventions that match the community's aspirations.
- Practice what you preach — make sure your organization is following the above model and empower your workers.

> So many of our ideas about packaged interventions would seem laughably one-dimensional if we saw social change less as fixing a broken machine, and more like the cultivation of an orchestra.

> Whether people are on the mountain matters less than that they climb.

> If you give a man a fish, he eats for a day, while if you teach him how to fish, he eats for a lifetime. But we could also support instructors to teach fishing, encourage entrepreneurs to manufacture fishing equipment, promote policymakers who can run well-regulated fish markets, nurture universities to do ichthyological research, cheer nations toward sustainable fishing, and on and on.

Conclusion

- We have to see social situations less as problems to be solved and more as people and institutions to be nurtured.
- The societal effects of just one person pursuing their aspirations can make all the difference.
- Our own intrinsic growth is important because its impact can be multiplied by the scale of our influence on others.

> The closer we are to being the best version of ourselves, the better the outcome for everyone we touch.

> We should lead by example, where it's to address climate change, global poverty, ethnic strife, or other global challenges.

> our responsibility to save ourselves

> Technology doesn't bootstrap an ethical outlook on its own.

How do we encourage more of this type of thinking in development? I feel like people know all of this, and contrary to what Toyama seems to think, I believe people do care about making positive change. So what's missing?