

# Invaders from Mars

By [Charlie Stross](#)

"Voting doesn't change anything — the politicians always win." 'Twas not always so, but I'm hearing variations on that theme a lot these days, and not just in the UK.

Why do we feel so politically powerless? Why is the world so obviously going to hell in a handbasket? Why can't anyone fix it?

Here's my (admittedly whimsical) working hypothesis ...

The rot set in back in the 19th century, when the US legal system began [recognizing corporations as de facto people](#). Fast forward past the collapse of the *ancien regime*, and into modern second-wave colonialism: once the USA grabbed the mantle of global hegemon from the bankrupt British empire in 1945, they naturally exported their corporate model worldwide, as US diplomatic (and military) muscle was used to promote access to markets on behalf of US corporations.

Corporations do not share our priorities. They are hive organisms constructed out of teeming workers who join or leave the collective: those who participate within it subordinate their goals to that of the collective, which pursues the three corporate objectives of growth, profitability, and pain avoidance. (The sources of pain a corporate organism seeks to avoid are lawsuits, prosecution, and a drop in shareholder value.)

Corporations have a mean life expectancy of around 30 years, but are potentially immortal; they live only in the present, having little regard for past or (thanks to short term accounting regulations) the deep future: and they generally exhibit a sociopathic lack of empathy.

Collectively, corporate groups lobby international trade treaty negotiations for operating conditions more conducive to pursuing their three goals. They bully individual lawmakers through overt channels (with the ever-present threat of unfavourable news coverage) and covert channels ([political campaign donations](#)). The general agreements on tariffs and trade, and subsequent treaties defining new proprietarian realms, once implemented in law, define the macroeconomic climate: national level politicians thus no longer control their domestic economies.

Corporations, not being human, lack patriotic loyalty; with a free trade regime in place they are free to move wherever taxes and wages are low and profits are high. We have seen this recently in Ireland where, despite a [brutal austerity budget](#), [corporation tax](#) is not to be raised lest multinationals desert for warmer climes.

For a while the Communist system held this at bay by offering a rival paradigm, however faulty, for how we might live: but with the collapse of the USSR in 1991 — and the adoption of state corporatism by China as an engine for development — large scale opposition to the corporate system withered.

We are now living in a global state that has been structured for the benefit of non-human entities with non-human goals. They have enormous media reach, which they use to distract

attention from threats to their own survival. They also have an enormous ability to support litigation against public participation, except in the very limited circumstances where such action is forbidden. Individual atomized humans are thus either co-opted by these entities (you can live *very* nicely as a CEO or a politician, as long as you don't bite the feeding hand) or steamrollered if they try to resist.

In short, we are living in the aftermath of an alien invasion.

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## **Nanolaw with Daughter**

Why privacy mattered.

On a Sunday morning before her soccer practice, not long after my daughter's tenth birthday, she and I sat down on the couch with our tablets and I taught her to respond to lawsuits on her own. I told her to read the first message.

“It says it's in French,” she said. “Do I translate?”

“Does it have a purple flag on it?”

“No,” she said.

“You don't actually have to worry about it unless it has a purple flag.”

She hesitated. “Can I read it?” she asked.

“If you want to read it go ahead.”

She switched the screen from French to English and read out the results: “Notice from the Democratic Republic of Congo related to the actions of King Leopold II.”

This was what I'd been avoiding. So much evil in the world and why did she need to know about all of it, at once? But for months she'd asked—begged—to answer her own suits. I'd told her to wait, to stop trying to grow up so fast, you'll have your whole lifetime to get sued. Until finally she said: “When I'm ten? I can do it when I'm ten?” And I'd said, “sure, after you're ten.” Somehow that had seemed far off. I had willed it to be far off.

“Honey,” I explained, “you'll get a lot of those kinds. What happened is, a long time ago, the country Belgium took over this country Congo and killed a lot of people and made everyone slaves. The people who are descendants of those slaves, their government gave them the right to ask other people for damages.”

“I didn't *do* anything. I thought you had to do something.”

Where do you start? Litigation-flow tariff policy? Post-colonial genocide reparations microsuits? Is there a book somewhere, *Telling Your Daughter About Nanolaw*?

“You know,” I asked, “how you have to be careful about giving away information?”

She did. We talk about that almost every day.

“So this is *why* you have to be careful,” I said. “They buy a whole lot of files. So in this case, they could purchase, like—when people do genetic testing to learn about their families? They'd buy all the records and see who is from Belgium. Or if you watched a soccer game with Belgium in it, or you have just one Belgian friend on your network. They take the records for billions of people and put it all together and do math.”

She nodded, but couldn't get past the fundamental problem: “Why *me*?”

“If you're going to answer suits by yourself, you have to understand that to these people, you aren't *you*. You are stuff they found in a box.” I considered for a moment. “Remember two years ago, you bought the code dog for Griffin Village?” God knows I remembered. Each of her 100 Griffin Points, when earned, was heralded by a shrill trumpet noise, and my daughter's even more shrill cries of joy. The dog had been named—Wallace? Waffles? No, it was Willie, and she used her 100 Griffin Points to buy a Billy Cat. Which caused more shrieking. Those were long months. “Maybe Willie Dog was programmed by Belgians? Or maybe Griffin Points is backed by a bank in Belgium and we never knew. The people in Congo might not even know. It might not even be the people in Congo but instead people in Italy doing it and they'll give money to the Congo people if they win anything. It might be that their computer thinks it's possible. But ultimately their government thinks that it's fair for these people to demand some of your money.”

“I never *got* anything from Belgium.”

“They think you did,” I said. “And see, they could be right. They have to be a little bit right to file in the first place and have it go out through a suenet without getting filtered. Maybe it's not Griffin points. It could be anything.”

“But that's amazingly *stupid*,” she said, forgetting now, I saw, how badly she'd wanted to do this. She had imagined that we were denying her access to some adult mystery, not shielding her from drudgework. That's a lesson too, right? Or was it a mistake to let her try? She already did her own laundry and had a bank account. Other girls had been answering lawsuits since they learned to read, lawyers' kids especially. “It's just part of life,” I said. “You have to think about yourself not as a person but as data.”

My daughter was first sued in the womb. It was all very new then. I'd posted ultrasound scans online for friends and family. I didn't know the scans had steganographic thumbprints. A giant electronics company that made ultrasound machines acquired a speculative law firm for many tens of millions of dollars. The new legal division cut a deal with all five Big Socials to dig out contact information for anyone who'd posted pictures of their babies in-utero. It turns out the ultrasounds had no clear rights story; I didn't actually own mine. It sounds stupid now but we didn't know. The first backsuits named millions of people, and the Big Socials just *caved*, ripped up their privacy policies in exchange for a cut. So five months after I posted the ultrasounds, one month before my daughter was born, we received a letter (back then a paper letter) naming myself, my wife, and one or more unidentified fetal defendants in a suit. We faced, I learned, unspecified penalties for copyright violation and theft of trade secrets, and risked, it was implied, that my daughter would be born bankrupt.

But for \$50.00 and processing fees the ultrasound shots I'd posted (copies attached) were mine forever, as long as I didn't republish without permission.

Of course I consented, going to the site-of-record and tapping the little thumbs-up box to release funds. And here we were ten years later, thinking of Belgium.

I asked my daughter: "How much do they want?"

She looked down at the screen. She is quiet and serious when working. "Two euro cents."

"Normally one like that I'd just go ahead and pay, except it doesn't have a purple flag. The purple flag means our government said they could sue people here in America. But if it's from another country without a purple flag you can ignore it."

"So I'm not actually in trouble?"

"You're never in trouble. You didn't do anything wrong. You're just named. And in this case they can't actually claim damages. Trash it."

She looked relieved. The rights of the Congolese were not her problem this morning. Her mother called from the other room: "Soccer soon."

"Okay," we both yelled back.

"How many are left?" I asked.

She looked at her tablet and said: "Fifty-seven."

"We can handle that," I said. I walked her through the rest: Get rid of the ones without flags. Pay those a dime or less by hitting the dime button. How many now? (Only six.) We went through the six: Four copyright claims, all sub-dollar and quickly paid.

She opened the penultimate message and smiled. "Dad," she said, "look."

We had gone to a baseball game at the beginning of the season. They had played a song on the public address system, and she sang along without permission. They used to factor that into ticket price—they still do if you pay extra or have a season pass—but now other companies handled the followup. And here was the video from that day, one of many tens of thousands simultaneously recorded from gun scanners on the stadium roof. In the video my daughter wore a cap and a blue T-shirt. I sat beside her, my arm over her shoulder, grinning. Her voice was clear and high; the ambient roar of the audience beyond us filtered down to static.

It had been only a few months, but already she seemed older than the singing girl. Soon, we had been warned, she'd demand a cryptographic shield for her diary. "It's terrible," said one friend whose daughter is thirteen. "I think, what if she's abducted and I need to read her messages, and the police can't read them? What if she runs away but all of her logs are locked? How do I keep her safe with all of those secrets?" But our family is not yet there. If I ask her politely, my daughter will look left, then right, then squish her nose into my cheek and whisper her Griffin Village password. I would never tell.

Watching the video I thought that it was wise of Major League Baseball to combine this sort of sentimental moment with mass speculative litigation. It kept brand values strong. I felt strangely *grateful* that I could have a moment to remember that afternoon. Surprised by the evidence of both copyright violation and father-daughter affection.

I told my waiting daughter to go ahead and pay the few dollars, just part of the latent cost of a ticket. She tapped and the tablet made its cash-register sound, and the video was irrevocably destroyed so that it could never again be shared. She opened the final message.

“What's a mutual-risk paternity?” she asked.

“It doesn't apply to you,” I said. “It's for boys.”

“But what is it?”

“Later,” I said. I felt like I had done enough fathering for the morning. “Just trash it so you're not late for soccer.”

A final chime.

“Good work,” I said.

She squinted at the screen. “I can do this now,” she said. “I can do it on my own.”

“You have to check it every day,” I said. “Time, tide, and law wait for no man.”

She looked at me and rolled her eyes (like her mother, her eyes are brown), dismissed the arbitration client and swiped the tablet to sleep.

She asked: “Can *I* sue people?”

This surprised me. “Yes,” I said. “Most people don't but if you have a good reason you can sue anyone.”

“Cool,” she said. Off she went to find her shin guards.

I was of a generation where one group sued and a much larger group was named. But perhaps her generation sees this as part of the traffic of daily life, a territory to explore. Every one a little lawyer.

My wife was on patrol, repeating the time, pointing out when asked where to find a water bottle, where to find a jacket, where to find a hair scrunchy. Finally my daughter had her act together. I watched them leave.

Here is how it would go, I imagined. Daughter and Mother would walk together to the park. They would talk about this morning's conversation. Mother would confirm that handling your own suits is a serious responsibility, that you can't let them pile up or that will send the signal that you were susceptible to liens.

Mother would explain what liens are. Daughter, well-intentioned, would half-listen and send messages to a dozen friends as they walked, each message another flash on the map. Mother would ask Daughter to please keep her wits about her crossing the street, and threaten to take away her phone. (I make the same empty threat many times a day.) Mother and Daughter would arrive at the field in the park, late but not very.

Then would come the game. Cameras in the phone of every parent. Sensors on the goals; sensors in the ref's whistle; in the ball; in the lamps that light the field. Yellow cards, goals, offsides, all recorded from many angles and tagged with time, location, temperature, whether for the memories or to limit liability—the motion of 22 bobbing ponytails transformed into lines of light.

One team would win; another team would lose; or they'd tie; or it would rain. All would go home. And days or decades from now, someone will find a way to cull, to merge, to bend the bobbing ponytails to their own ends and use them in some scheme. They will steal that light as if were nothing, as if it were not life itself.

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## **How Goldman Sachs gambled on starving the world's poor – and won**

Posted by [Johann](#) – July 2, 2010

By now, you probably think your opinion of Goldman Sachs and its swarm of Wall Street allies has rock-bottomed at raw loathing. You're wrong. There's more. It turns out the most destructive of all their recent acts has barely been discussed at all. Here's the rest. This is the story of how some of the richest people in the world – Goldman, Deutsche Bank, the traders at Merrill Lynch, and more – have caused the starvation of some of the poorest people in the world, just so they could make a fatter profit.

It starts with an apparent mystery. At the end of 2006, food prices across the world started to rise, suddenly and stratospherically. Within a year, the price of wheat had shot up by 80 percent, maize by 90 percent, and rice by 320 percent. In a global jolt of hunger, 200 million people – mostly children – couldn't afford to get food any more, and sank into malnutrition or starvation. There were riots in over 30 countries, and at least one government was violently overthrown. Then, in spring 2008, prices just as mysteriously fell back to their previous level. Jean Ziegler, the UN Special Rapporteur on the Right to Food, called it “a silent mass murder”, entirely due to “man-made actions.”

Earlier this year I was in Ethiopia, one of the worst-hit countries, and people there remember the food crisis like they were hit by a tsunami. “It was very painful,” a woman my age called Abeba Getaneh, told me. “My children stopped growing. I felt like battery acid had been poured into my stomach as I starved. I took my two daughters out of school and got into debt. If it had gone on much longer, I think my baby would have died.”

Most of the explanations we were given at the time have turned out to be false. It didn't happen because supply fell: the International Grain Council says global production of wheat actually increased during that period, for example. It isn't because demand grew either. We were told the swelling Chinese and Indian middle classes were pushing it up, but as Professor

Jayati Ghosh of the Centre for Economic Studies in New Delhi has shown, demand from those countries for them actually fell by 3 percent over this period.

There are some smaller explanations that account for some of the price rise, but not all. It's true the growing demand for biofuels was gobbling up much-needed agricultural land – but that was a gradual process that wouldn't explain a violent spike. It's true that oil prices increased, driving up the cost of growing and distributing food – but the evidence increasingly shows that wasn't the biggest factor.

To understand [the biggest cause](#), you have to plough through some concepts that will make your head ache – but not half as much as they made the poor world's stomachs ache.

For over a century, farmers in wealthy countries have been able to engage in a process where they protect themselves against risk. Farmer Giles can agree in January to sell his crop to a trader in August at a fixed price. If he has a great summer and the global price is high, he'll lose some cash, but if there's a lousy summer or the price collapses, he'll do well from the deal. When this process was tightly regulated and only companies with a direct interest in the field could get involved, it worked well.

Then, through the 1990s, Goldman Sachs and others lobbied hard and the regulations were abolished. Suddenly, these contracts were turned into 'derivatives' that could be bought and sold among traders who had nothing to do with agriculture. A market in "food speculation" was born.

So Farmer Giles still agrees to sell his crop in advance to a trader for £10,000. But now, that contract can be sold on to financial speculators, who treat the contract itself as an object of potential wealth. Goldman Sachs can buy it and sell it on for £20,000 to Deutschebank, who sell it on for £30,000 to Merrill Lynch – and on, and on, provided they think the price can be jacked up, until it seems to bear almost no relationship to Farmer Giles' crop at all.

If this seems mystifying, it is. John Lanchester, in his superb guide to the world of finance, 'Whoops! Why Everybody Owes Everyone and No One Can Pay', explains: "Finance, like other forms of human behaviour, underwent a change in the twentieth century, a shift equivalent to the emergence of modernism in the arts – a break with common sense, a turn towards self-referentiality and abstraction and notions that couldn't be explained in workaday English."

Poetry found its break broke with straightforward representation of reality when T.S. Eliot wrote 'The Wasteland.' Finance found its Wasteland moment in the 1970s, when it began to be dominated by complex financial instruments that even the people selling them didn't fully understand. As Lanchester puts it: "With derivatives... there is a profound break between the language of finance and that of common sense."

So what has this got to do with the bread on Abiba's plate? How could this parallel universe of speculation affect her? Until deregulation, the price for food was set by the forces of supply and demand for food itself. (This was itself deeply imperfect: it left a billion people hungry.) But after deregulation, it was no longer just a market in food. It became, at the same time, a market in contracts that were speculating on theoretical food that would be grown in the future – and the speculators drove the price through the roof.

Here's how it happened. In 2006, financial speculators like Goldman's pulled out of the collapsing US real estate market, and they were looking for somewhere else to make their stash of cash swell. They started to buy massive amounts of derivatives based on food: they reckoned that food prices would stay steady or rise while the rest of the economy tanked. Suddenly, the world's frightened investors stampeded onto this ground and decided to buy, buy, buy.

So while the supply and demand of food stayed pretty much the same, the supply and demand for contracts based on food massively rose – which meant the all-rolled-into-one price for food on people's plates massively rose. The starvation began.

The food price was now being set by speculation, rather than by real food. The hedge fund manager Michael Masters estimated that even on the regulated exchanges in the US – which take up a small part of the business – 64 percent of all wheat contracts were held by speculators with no interest whatever in real wheat. They owned it solely to inflate the price and sell it on. Even George Soros said this was “just like secretly hoarding food during a hunger crisis in order to make profits from increasing prices.” The bubble only burst in March 2008 when the situation got so bad in the US that the speculators had to slash their spending to cover their losses back home.

When I asked them to comment on the charge of causing mass hunger, Merrill Lynch's spokesman said: “Huh. I didn't know about that.” He later emailed to say: “I am going to decline comment.” Deutsche Bank also refused to comment. Goldman Sachs were a little more detailed in their response: they said “serious analyses... have concluded index funds did not cause a bubble in commodity futures prices”, offering as evidence a single statement by the OECD.

How do we know this is wrong? As Professor Ghosh points out, some vital crops are not traded on the futures markets, including millet, cassava, and potatoes. Their price rose a little during this period – but only a fraction as much as the ones affected by speculation. Her research [shows](#) this speculation was “the main cause” of the rise.

So it has come to this. The world's wealthiest speculators set up a casino where the chips were the stomachs of hundreds of millions of innocent people. They gambled on increasing starvation, and won. This is what happens when you follow the claim that unregulated markets know best to the end of the line. The finance sector's Wasteland moment created a real wasteland. What does it say about our political and economic system that we can so casually inflict such misery, and barely even notice?

If we don't re-regulate, it is only a matter of time before this all happens again. How long would it last then? How many people would it kill next time? The moves to restore the pre-1990s rules on commodities trading have been stunningly sluggish. In the US, the House has passed some regulation, but there are fears the Senate – drenched in speculator-donations – may dilute it into meaninglessness. The EU is lagging far behind even this, while in Britain, where most of this “trade” takes place, advocacy groups are worried David Cameron's government will block reform entirely to please his own friends and donors in the City.

Only one force can stop another speculation-starvation-bubble from swelling, probably soon. The decent people in developed countries need to shout louder than the lobbyists from Goldman Sachs. In the UK, the World Development Movement is launching a week of action



this summer as crucial decisions on this are taken: text WDM to 82055 for your marching orders. In the US, click [here](#) to find out what you can do. The last time I spoke to her, Abiba said: “We can’t go through that another time. Please – do anything you can to make sure they never, never do that to us again.”

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## [Who Wants To Be a Thousandaire?](#)

Posted by [Alan Bellows](#) on 12 September 2011



*This article was written by our newest author, Alan Bellows.*

On the 19th of May 1984, at CBS Television City in Hollywood, a curious air of tension hung over the studio during the taping of the popular game show *Press Your Luck*. Ordinarily a live studio audience could be counted upon to holler and slap their hands together, but something was keeping them unusually subdued. The object of the audience’s awe was sitting at the center podium on the stage, looking rather unremarkable in his thrift-store shirt and slicked-back graying hair. His name was Michael Larson.

“You’re going to go again?” asked the show’s host Peter Tomarken as Larson gesticulated. Gasps and murmurs punctuated the audience’s cautious applause, and the contestants sitting on either side of Larson clapped in stunned silence. “Michael’s going *again*,” Tomarken announced incredulously. “We’ve never had anything like this before.”

The scoreboard on Larson’s podium read “\$90,351,” an amount unheard of in the history of *Press Your Luck*. In fact, this total was far greater than any person had ever earned in one sitting on any television game show. With each spin on the randomized “Big Board” Larson took a one-in-six chance of hitting a “Whammy” space that would strip him of all his spoils, yet for 36 consecutive spins he had somehow missed the whammies, stretched the show beyond its 30-minute format, and accumulated extraordinary winnings. Such a streak was astronomically unlikely, but Larson was not yet ready to stop. He was convinced that he knew exactly what he was doing.

Michael Larson was born in the small town of Lebanon, Ohio in 1949. Although he was generally regarded as creative and intelligent, he had an inexplicable preference for shady enterprises over gainful employment. One of his earliest exploits was in middle school, where he smuggled candy bars into class and profitably peddled them on the sly. This innocuous operation was just the first in a decreasingly scrupulous series of ventures. One of his later

schemes involved opening a checking account with a bank that was offering a promotional \$500 to each new customer; he would withdraw the cash at the earliest opportunity, close the account, then repeat the process over and over under assumed names.



Michael Larson and Teresa Dinwitty on vinyl.

On another occasion he created a fake business under a family member's name, hired himself as an employee, then laid himself off to collect unemployment wages .

By 1983 Michael Larson had been married and divorced twice and was living with his girlfriend Teresa Dinwitty. During the summers he operated a Mister Softee ice cream truck, and during the off-season he passed the time poring through piles of periodicals in search of money-making schemes. Michael also spent much of the day with his console television, scanning the airwaves for lucrative opportunities. One day it occurred to him that he could double his information intake by setting a second console TV to beside the first and tuning it to a different channel. Soon he procured a third. Eventually he added a row of smaller televisions atop the three consoles, and yet another row of tubes was later stacked atop that. Now he could watch 12 channels at once.

The warm, buzzing television tumor metastasized into adjacent rooms, filling the house with a goulash of infomercials, news programs, game shows, and advertisements for money-making schemes. Larson watched them in a trance-like state, sometimes throughout the night. Dinwitty would later say of her boyfriend and common-law husband, "He always thought he was smarter than everybody else," and that he had a "constant yearning for knowledge." But when visitors asked about the chattering mass of receivers she found it easier to just tell them that Michael was crazy.

One fateful November day in 1983, Peter Tomarken's dapper countenance appeared on one of Michael's many monitors. Tomarken was the host of a new game show called *Press Your Luck* which was giving away more money than any other game shows at the time. What most interested Michael was the game's "Big Board," an electronic array of prize boxes which operated by lighting up squares in a rapid and random fashion until the player pressed a big red button to stop the action. The player's randomly selected box might contain a vacation, a prize, cash rewards, and/or extra spins. But with each spin there was also a one-in-six chance of hitting a Whammy which would cause an animated character to appear on the screen and expunge all of a player's winnings.



Michael's secret safe spots are the ones that contain \$3000 and \$2000 prizes at the time this picture was taken.

Larson invested in a newfangled video cassette recorder and began taping episodes of *Press Your Luck*. After weeks of painstaking scrutiny Michael realized that the bouncing prize selector did not actually move randomly; it always followed one of five lengthy sequences. This information was only moderately useful due to the rapidly shuffling positions of the prizes and penalties, but his methodical analysis led to another finding. Of the eighteen squares on the Big Board there were two that never had Whammies: #4 and #8. This meant that all a player must do to avoid Whammies—and thus retain his hundreds of dollars in winnings—would be to memorize five interminable series of numbers and develop superhuman reflexes. Giddy with the thrill of discovery, Larson began fine-tuning his timing using his VCR's pause key as a surrogate big red button.

Six months later, in May 1984, Michael Larson sat beardily in the interview room for the *Press Your Luck* auditions in Hollywood. His story left few heartstrings unpulled: He explained that he was an unemployed ice cream truck driver. He had borrowed the bus money to get to Hollywood from Ohio because he loved *Press Your Luck*. He had stopped at a thrift store down the street to buy a 65 cent dress shirt. And he was unable to afford a gift for his six-year-old daughter's upcoming birthday. Executive producer Bill Carruthers said of Larson's audition, "He really impressed us. He had charisma." Contestant coordinator Bob Edwards was uneasy about Larson, but he couldn't quite articulate why, so Bill overruled him. "I should have listened to Bob," Carruthers later chuckled.

Taping occurred the following Saturday. Returning champion Ed Long sat on Michael's right and contestant Janie Litras sat on his left. Host Peter Tomarken made boilerplate game-showey chit-chat with each contestant, and he asked Michael about his ice cream truck. "You've kind of OD'd on ice cream, right?" he asked Larson, who agreed. "Well hopefully you won't OD on money, Michael."

Michael earned 3 spins on the Big Board in the first question round, giving him 3 opportunities to test the skills he had cultivated over the past six months. The board's incandescent selector began its distinctive pseudo-random maneuvers. "Come on...big bucks," Michael chanted, as was customary for players when up against the Big Board. "STOP!" he shouted as he slapped the button with both hands. The selector was stopped on a Whammy in slot #17. Michael shook his head and forced an embarrassed smile, but now he knew exactly how the board was timed with respect to the button. With his second and third

spins Michael found his stride. He dropped all pretenses and remained silent as he concentrated on the light bouncing around the big board. Both times he successfully landed on space #4, and he ended the first half of the game with \$2,500.



In the second and more lucrative half of the game, Michael managed to acquire seven spins to use on the big board. Since he was in last place he was the first to spin. He positioned his hands over the button with interlocked fingers and impatiently interrupted the host's banter by shouting, "I'm ready, I'm ready!" Tomarken indulged him, and the light on the big board began bouncing. Again, Larson was silent as he frowned at the board. Fellow contestant Ed Long would later say of Larson during these moments that "he went into a trance."

Thus began Larson's inconceivable procession of winning spins. His demeanor alternated between intense concentration and jubilation. The strategy worked even better than he had anticipated due to the large number of Free Spin bonuses that appeared in his safe slots. Host Peter Tomarken became increasingly flabbergasted each time Larson made the "spin again" gesture. \$30,000 was considered an extraordinary payoff for one day on any game show at that time, and the likelihood of missing the whammies for more than a dozen spins was considered to be vanishingly small. By his 13th spin Michael had \$32,351 and nervous giggles. By his 21st spin he had \$47,601 and conspicuous anxiety. But he pressed on.

The *Press Your Luck* control booth had grown silent as the show's producers began to realize that Larson was consistently winning on the same two spaces. In a panic, the booth operators called Michael Brockman, CBS's head of daytime programming. "Something was very wrong," Brockman said in a *TV Guide* interview. "Here was this guy from nowhere, and he was hitting the bonus box every time. It was bedlam, I can tell you." Producers asked if they should stop the show, but Larson did not appear to be breaking any rules so they were forced to allow the episode to play out.

Back on the stage, Ed and Janie clapped incredulously on either side of Michael, still waiting for their turns on the board. Janie let slip a snort of disgust after Michael's 26th successful spin. Tomarken covered his face with his hand in disbelief as Larson risked almost \$75k on his 32nd spin. But Michael's zen-like concentration was beginning to falter. He paused to set his head on the podium and let out a whimper of exhaustion. Still he motioned to continue. The studio audience worried that he'd hit a whammy and experience an unfortunate reversal of fortune, while the producers in the control booth worried that he wouldn't.



On his 40th spin Larson's scoreboard debt-clocked his dollar sign to make room for another digit; he surpassed \$100,000. Larson, his shoulders slumped, passed his remaining spins to the bewildered Ed Long. Ed immediately hit a whammy.



Host Peter Tomarken failing to believe what he is seeing.

Michael sat in a twitchy daze as Ed and Janie went through their much more pedestrian turns at the board. But Larson was snapped back to reality when Janie passed 3 of her spins to him. According to the game rules he was obligated to use them. He did not appear pleased.

"I didn't want them," Larson joked nervously as the light began bouncing around the big board, yet almost immediately he punched the big red button and landed on \$4,000 in slot #4. Janie let out a squeal. The board started again. After a longer than usual delay, Larson hit the button again, landing safely in slot #8. He had just one mandatory spin remaining. The board started flashing, and Larson let out a sigh. "STOP!" he shouted as he slapped the button, but he had pressed it a fraction of a second too soon. Slot #17 was lit, the same slot where he'd hit a whammy on his first spin. As luck would have it, however, the slot contained a trip to the Bahamas. It was over; Michael had won. Larson gave Ed an awkward embrace and offered Janie a firm handshake. In total, Larson won \$110,237 in cash and prizes, including two tropical vacations and a sailboat. Reportedly this was more than triple the previous record for winnings in a single episode of a game show.

A clearly discombobulated Peter Tomarken engaged Larson in an impromptu interview after the show. "Why did you keep going?" he asked.

"Well, two things:" Michael replied. "One, it felt right. And second, I still had seven spins and if I passed them, somebody could have done what I did."

Tomarken was too polite to remark on the ridiculousness of that suggestion. "What are you going to do with the money, Michael?"

"Invest in houses."

Larson was not allowed to return as champion since he had surpassed CBS's \$25k winnings limit. As all of the perplexed parties parted ways, CBS executives were called to a meeting to dissect the episode frame-by-frame. In spite of their efforts they could find no evidence of wrongdoing or rule-breaking, so after a few weeks they grudgingly mailed Larson his check. Some people at CBS didn't want the over-extended episode to be released to the public at all,

but it was ultimately decided to air it in June as an awkwardly edited two-parter.



Executives insisted that the episode never be seen again. In the meantime *Press Your Luck* paid to add some more sequences to the Big Board to prevent future contestants from mimicking Michael's strategy.

Upon his return home, neighbors were shocked to learn of "crazy" Michael Larson's accomplishment. True to his word, he regaled his daughter with expensive birthday gifts and invested some of his spoils in real estate. But his fondness for dicey get-rich-quick deals ensnared him in a Ponzi scheme, and he lost enough money to lose his appetite for houses.

Some months later Michael Larson saw another opportunity to stack the odds in his favor with a dash of ingenuity. He walked into his bank one day and asked to withdraw his entire account balance, but with an unusual stipulation: He wanted as much of the cash as possible in one dollar notes. The bank complied with his unorthodox request, and from there he proceeded to another bank to trade even more of his savings for singles. Over a two week period he converted the \$100,000 or so that remained of his personal savings into 100,000 one dollar bills.

The motivation for this aberrant behavior was a contest put on by a local radio station. Each day a disk jockey would read a serial number aloud on the air, and if any listener was able to produce the matching dollar bill they would win \$30,000. Michael reasoned that 100,000 one dollar bills was 100,000 opportunities to win the prize, giving him a statistical advantage. And even if his scheme proved fruitless he would just redeposit his money, so he figured he had nothing to lose.

Michael and Teresa spent each day rifling through piles of cash looking for matches, pausing only for such distractions as eating, bathing, and excreting. They soon realized that it was impossible for two people to examine that much money in the allotted time, so Michael redeposited a portion of it. After a few weeks, Michael's obsession over the contest began to put considerable strain on his relationship with Teresa, and on his relationship with reality. The cash was stashed in kitchen drawers, up the stairs, and on bedroom floors. They kept the bills in burlap sacks, grocery bags, and unkempt stacks. And though his girlfriend would scream and shout, he simply would not take the cash bags out.



One evening, seeking refuge from the endless hours of cash-collating, Michael and Teresa accepted an invitation to attend a Christmas party. When they returned home at about 1:00 am, they found the back door of the house had been brutalized. Apparently the pair had unwittingly left a sizable tip for an unsolicited cleaning service: about \$50,000. According to Dinwitty, Michael immediately accused her of being an accessory to the heist. She denied involvement, and police found no evidence of her guilt, but she says that Larson was never convinced. She claimed that Michael would stand and stare at her while she slept, which made her fear for her safety. One day while Michael was away she took \$5,000 that he had hidden in a dresser drawer and absconded with the kids. She called him from a hotel to tell him to move out of her house. His only response was, "I want my money back." He packed his belongings and departed, leaving one wall of the living room blemished and peeling from the heat of his once-formidable tower of televisions.

Police never identified the thieves. In 1994, about 10 years after his pivotal *Press Your Luck* appearance, Larson was invited to be a guest on ABC's *Good Morning America* to discuss the movie *Quiz Show*. With a raspy voice he unbeardily reminisced about his game show exploits and expressed regret that he was never able to play on Jeopardy, because, he explained, "I think I have figured out some angles on that." Around that same time he was also interviewed by *TV Guide* magazine. When asked about the whereabouts of his *Press Your Luck* winnings, he replied, "It didn't work out. We had a cash-flow problem, and I lost everything."

In March of the following year, Michael fled from Ohio with agents from the SEC, IRS, and FBI hot on his heels. He was implicated as one of the architects of a cash-flow solution that operated under the name Pleasure Time Incorporated. It was a pyramid scam selling shares in a fraudulent "American Indian Lottery" which had hoodwinked 20,000 investors out of 3 million dollars. The Pleasure Time flimflam was historic in that it was the first time the SEC pursued a case where the bulk of the fraud took place in newfangled "cyberspace." Michael Larson was a fugitive from justice for four years until 1999, when he turned up in Apopka, Florida. He had succumbed to throat cancer.



Michael Larson's appearance on *Good Morning America* Michael Larson held the record for the most game-show winnings in a single day until 2006, when it was broken by Vickyann Chrobak-Sadowski on *The Price is Right*. Larson's handiwork on *Press Your Luck* was sufficiently extraordinary that he has become a strange kind of folk hero to some. Others regard him as a cheap huckster or a likable-but-occasionally-creepy crackpot. The real Michael Larson was arguably an amalgam of these qualities. His shenanigans on *Press Your Luck* are oft described as a "scam," "scandal," or a "cheat," but even the CBS executives ultimately admitted that he had broken nary a rule. In the end, his impressive performance on *Press Your Luck* may be one of the only honest day's work that Michael Larson ever did.

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## Transcript

### Freedom In the Cloud: Software Freedom, Privacy, and Security for Web 2.0 and Cloud Computing

#### A Speech given by [Eben Moglen](#) at a meeting of the Internet Society's [New York branch](#) on Feb 5, 2010

##### [Event records](#)

It's a pleasure to be here. I would love to think that the reason that we're all here on a Friday night is that my speeches are so good. I actually have no idea why we're all here on a Friday night but I'm very grateful for the invitation. I am the person who had no date tonight so it was particularly convenient that I was invited for now.

So, of course, I didn't have any date tonight. Everybody knows that. My calendar's on the web.

The problem is that problem. Our calendar is on the web. Our location is on the web. You have a cell phone and you have a cell phone network provider and if your cell phone network provider is Sprint then we can tell you that several million times last year, somebody who has a law enforcement ID card in his pocket somewhere went to the Sprint website and asked for the realtime location of somebody with a telephone number and was given it. Several million



times. Just like that. We know that because Sprint admits that they have a website where anybody with a law enforcement ID can go and find the realtime location of anybody with a Sprint cellphone. We don't know that about ATT and Verizon because they haven't told us.

But that's the only reason we don't know, because they haven't told us. That's a service that you think of as a traditional service - telephony. But the deal that you get with the traditional service called telephony contains a thing you didn't know, like spying. That's not a service to you but it's a service and you get it for free with your service contract for telephony. You get for free the service of advertising with your gmail which means of course there's another service behind which is untouched by human hands, semantic analysis of your email. I still don't understand why anybody wants that. I still don't understand why anybody uses it but people do, including the very sophisticated and thoughtful people in this room.

And you get free email service and some storage which is worth exactly a penny and a half at the current price of storage and you get spying all the time.

And for free, too.

And your calendar is on the Web and everybody can see whether you have a date Friday night and you have a status - "looking" - and you get a service for free, of advertising "single: looking". Spying with it for free. And it all sort of just grew up that way in a blink of an eye and here we are. What's that got to do with open source? Well, in fact it doesn't have anything to do with open source but it has a whole lot to do with free software. Yet, another reason why Stallman was right. It's the freedom right?

So we need to back up a little bit and figure out where we actually are and how we actually got here and probably even more important, whether we can get out and if so, how? And it isn't a pretty story, at all. David's right. I can hardly begin by saying that we won given that spying comes free with everything now. But, we haven't lost. We've just really bamboozled ourselves and we're going to have to un-bamboozle ourselves really quickly or we're going to bamboozle other innocent people who didn't know that we were throwing away their privacy for them forever.

It begins of course with the Internet, which is why it's really nice to be here talking to the Internet society - a society dedicated to the health, expansion, and theoretical elaboration of a peer-to-peer network called "the Internet" designed as a network of peers without any intrinsic need for hierarchical or structural control and assuming that every switch in the Net is an independent, free-standing entity whose volition is equivalent to the volition of the human beings who want to control it.

That's the design of the NET, which, whether you're thinking about it as glued together with IPv4 or that wonderful improvement IPv6 which we will never use apparently, still assumes peer communications.

OF course, it never really really really worked out that way. There was nothing in the technical design to prevent it. Not at any rate in the technical design interconnection of nodes and their communication. There was a software problem. It's a simple software problem and it has a simple three syllable name. It's name is Microsoft. Conceptually, there was a network which was designed as a system of peer nodes but the OS which occupied the network in an increasingly - I'll use the word, they use it about us why can't I use it back? - viral way over

the course of a decade and a half. The software that came to occupy the network was built around a very clear idea that had nothing to do with peers. It was called “server client architecture”.

The idea that the network was a network of peers was hard to perceive after awhile, particularly if you were a, let us say, ordinary human being. That is, not a computer engineer, scientist, or researcher. Not a hacker, not a geek. If you were an ordinary human, it was hard to perceive that the underlying architecture of the Net was meant to be peerage because the OS software with which you interacted very strongly instantiated the idea of the server and client architecture.

In fact, of course, if you think about it, it was even worse than that. The thing called “Windows” was a degenerate version of a thing called “X Windows”. It, too, thought about the world in a server client architecture, but what we would now think of as now backwards. The server was the thing at the human being’s end. That was the basic X Windows conception of the world. it’s served communications with human beings at the end points of the Net to processes located at arbitrary places near the center in the middle, or at the edge of the NET. It was the great idea of Windows in an odd way to create a political archetype in the Net which reduced the human being to the client and produced a big, centralized computer, which we might have called a server, which now provided things to the human being on take-it-or-leave-it terms.

They were, of course, quite take-it or leave-it terms and unfortunately, everybody took it because they didn’t know how to leave once they got in. Now the Net was made of servers in the center and clients at the edge. Clients had rather little power and servers had quite a lot. As storage gets cheaper, as processing gets cheaper, and as complex services that scale in ways that are hard to use small computers for - or at any rate, these aggregated collections of small computers for - the most important of which is search. As services began to populate that net, the hierarchical nature of the Net came to seem like it was meant to be there. The Net was made of servers and clients and the clients were the guys at the edge representing humans and servers were the things in the middle with lots of power and lots of data.

Now, one more thing happened about that time. It didn’t happen in Microsoft Windows computers although it happened in Microsoft Windows servers and it happened more in sensible OSs like Unix and BSD and other ones. Namely, servers kept logs. That’s a good thing to do. Computers ought to keep logs. It’s a very wise decision when creating computer OS software to keep logs. It helps with debugging, makes efficiencies attainable, makes it possible to study the actual operations of computers in the real world. It’s a very good idea.

But if you have a system which centralizes servers and the servers centralize their logs, then you are creating vast repositories of hierarchically organized data about people at the edges of the network that they do not control and, unless they are experienced in the operation of servers, will not understand the comprehensiveness of, the meaningfulness of, will not understand the aggregatability of.

So we built a network out of a communications architecture design for peering which we defined in client-server style, which we then defined to be the dis-empowered client at the edge and the server in the middle. We aggregated processing and storage increasingly in the middle and we kept the logs - that is, info about the flows of info in the Net - in centralized

places far from the human beings who controlled or thought they controlled the operation of the computers that increasingly dominated their lives. This was a recipe for disaster.

This was a recipe for disaster. Now, I haven't mentioned yet the word "cloud" which I was dealt on the top of the deck when I received the news that I was talking here tonight about privacy and the cloud.

I haven't mentioned the word "cloud" because the word "cloud" doesn't really mean anything very much. In other words, the disaster we are having is not the catastrophe of the cloud. The disaster we are having is the catastrophe of the way we misunderstood the Net under the assistance of the un-free software that helped us to understand it. What "cloud" means is that servers have ceased to be made of iron. "Cloud" means virtualization of servers has occurred.

So, out here in the dusty edges of the galaxy where we live in dis-empowered clienthood, nothing very much has changed. As you walk inward towards the center of the galaxy, it gets more fuzzy than it used to. We resolve now halo where we used to see actual stars. Servers with switches and buttons you can push and such. Instead, what has happened is that iron no longer represents a single server. Iron is merely a place where servers could be. So "cloud" means servers have gained freedom, freedom to move, freedom to dance, freedom to combine and separate and re-aggregate and do all kinds of tricks. Servers have gained freedom. Clients have gained nothing. Welcome to the cloud.

It's a minor modification of the recipe for disaster. It improves the operability for systems that control the clients out there who were meant to be peers in a Net made of equal things.

So that's the architecture of the catastrophe. If you think about it, each step in that architectural revolution: from a network made of peers, to servers that serve the communication with humans, to clients which are programs running on heavy iron, to clients which are the computers that people actually use in a fairly dis-empowered state and servers with a high concentration of power in the Net, to servers as virtual processes running in clouds of iron at the center of an increasingly hot galaxy and the clients are out there in the dusty spiral arms.

All of those decisions architecturally were made without any discussion of the social consequences long-term, part of our general difficulty in talking about the social consequences of technology during the great period of invention of the Internet done by computer scientists who weren't terribly interested in Sociology, Social Psychology, or, with a few shining exceptions - freedom. So we got an architecture which was very subject to misuse. Indeed, it was in a way begging to be misused and now we are getting the misuse that we set up. Because we have thinned the clients out further and further and further. In fact, we made them mobile. We put them in our pockets and we started strolling around with them.

There are a lot of reasons for making clients dis-empowered and there are even more reasons for dis-empowering the people who own the clients and who might quaintly be thought of the people who ought to control them. If you think for just a moment how many people have an interest in dis-empowering the clients that are the mobile telephones you will see what I mean. There are many overlapping rights owners as they think of themselves each of whom has a stake in dis-empowering a client at the edge of the network to prevent particular hardware from being moved from one network to another. To prevent particular hardware

from playing music not bought at the great monopoly of music in the sky. To disable competing video delivery services in new chips I founded myself that won't run popular video standards, good or bad. There are a lot of business models that are based around mucking with the control over client hardware and software at the edge to deprive the human that has quaintly thought that she purchased it from actually occupying the position that capitalism says owners are always in - that is, of total control.

In fact, what we have as I said a couple of years ago in between appearances here at another NYU function. In fact, what we have are things we call platforms. The word "platform" like the word "cloud" doesn't inherently mean anything. It's thrown around a lot in business talk. But, basically what platform means is places you can't leave. Stuff you're stuck to. Things that don't let you off. That's platforms. And the Net, once it became a hierarchically architected zone with servers in the center and increasingly dis-empowered clients at the edge, becomes the zone of platforms and platform making becomes the order of the day.

Some years ago a very shrewd lawyer who works in the industry said to me "Microsoft was never really a software company. Microsoft was a platform management company". And I thought Yes, shot through the heart.

So we had a lot of platform managers in a hierarchically organized network and we began to evolve services. "Services" is a complicated word. It's not meaningless by any means but it's very tricky to describe it. We use it for a lot of different things. We badly need an analytical taxonomy of "services" as my friend and colleague Philippe Aigrain in Paris pointed out some 2 or 3 years ago. Taxonomies of "services" involve questions of simplicity, complexity, scale, and control.

To take an example, we might define a dichotomy between complex and simple services in which simple services are things that any computer can perform for any other computer if it wants to and complex services are things you can't do with a computer. You must do with clusters or structures of some computational or administrative complexity. SEARCH is a complex service. Indeed, search is the archetypal complex service. Given the one way nature of links in the Web and other elements in the data architecture we are now living with (that's another talk, another time) search is not a thing that we can easily distribute. The power in the market of our friends at Google depends entirely on the fact that search is not easily distributed. It is a complex service that must be centrally organized and centrally delivered. It must crawl the web in a unilateral direction, link by link, figuring out where everything is in order to help you find it when you need it. In order to do that, at least so far, we have not evolved good algorithmic and delivery structures for doing it in a decentralized way. So, search becomes an archetypal complex service and it draws onto itself a business model for its monetization.

Advertising in the 20th century was a random activity. You threw things out and hoped they worked. Advertising in the 21st century is an exquisitely precise activity. You wait for a guy to want something and then you send him advertisements about what he wants and bingo it works like magic. So of course on the underside of a complex service called search there is a theoretically simple service called advertising which, when unified to a complex service, increases its efficiency by orders of magnitude and the increase of the efficiency of the simple service when combined with the complex one produces an enormous surplus revenue flow which can be used to strengthen search even more.

But that's the innocent part of the story and we don't remain in the innocent part of the story for a variety of uses. I won't be tedious on a Friday night and say it's because the bourgeoisie is constantly engaged in destructively reinventing and improving its own activities and I won't be moralistic on a Friday night that you can't do that and say because sin is in-eradicable and human beings are fallen creatures and greed is one of the sins we cannot avoid committing. I will just say that as a sort of ordinary social process we don't stop at innocent. We go on, which surely is the thing you should say on a Friday night. And so we went on.

Now, where we went on is really towards the discovery that all of this would be even better if you had all the logs of everything because once you have the logs of everything then every simple service is suddenly a goldmine waiting to happen and we blew it because the architecture of the Net put the logs in the wrong place. They put the logs where innocence would be tempted. They put the logs where the failed state of human beings implies eventually bad trouble and we got it.

The cloud means that we can't even point in the direction of the server anymore and because we can't even point in the direction of the server anymore we don't have extra technical or non-technical means of reliable control over this disaster in slow motion. You can make a rule about logs or data flow or preservation or control or access or disclosure but your laws are human laws and they occupy particular territory and the server is in the cloud and that means the server is always one step ahead of any rule you make or two or three or six or poof! I just realized I'm subject to regulation, I think I'll move to Oceana now.

Which means that in effect, we lost the ability to use either legal regulation or anything about the physical architecture of the network to interfere with the process of falling away from innocence that was now inevitable in the stage I'm talking about, what we might call late Google stage 1.

It is here, of course, that Mr. Zuckerberg enters.

The human race has susceptibility to harm but Mr. Zuckerberg has attained an unenviable record: he has done more harm to the human race than anybody else his age.

Because he harnessed Friday night. That is, everybody needs to get laid and he turned it into a structure for degenerating the integrity of human personality and he has to a remarkable extent succeeded with a very poor deal. Namely, "I will give you free web hosting and some PHP doodads and you get spying for free all the time". And it works.

That's the sad part, it works.

How could that have happened?

There was no architectural reason, really. There was no architectural reason really. Facebook is the Web with "I keep all the logs, how do you feel about that?" It's a terrarium for what it feels like to live in a panopticon built out of web parts.

And it shouldn't be allowed. It comes to that. It shouldn't be allowed. That's a very poor way to deliver those services. They are grossly overpriced at "spying all the time". They are not technically innovative. They depend upon an architecture subject to misuse and the business

model that supports them is misuse. There isn't any other business model for them. This is bad.

I'm not suggesting it should be illegal. It should be obsolete. We're technologists, we should *fix* it.

I'm glad I'm with you so far. When I come to how we should fix it later I hope you will still be with me because then we could get it done.

But let's say, for now, that that's a really good example of where we went wrong and what happened to us because. It's trickier with gmail because of that magical untouched by human hands-iness. When I say to my students, "why do you let people read your email", they say "but nobody is reading my email, no human being ever touched it. That would freak me out, I'd be creeped out if guys at Google were reading my email. But that's not happening so I don't have a problem."

Now, this they cannot say about Facebook. Indeed, they know way too much about Facebook if they let themselves really know it. You have read the stuff and you know. Facebook workers know who's about to have a love affair before the people do because they can see X obsessively checking the Facebook page of Y. There's some very nice research done a couple of years ago at an MIT I shouldn't name by students I'm not going to describe because they were a little denting to the Facebook terms of service in the course of their research. They were just scraping but the purpose of their scraping was the demonstrate that you could find closeted homosexuals on Facebook.

They don't say anything about their sexual orientation. Their friends are out, their interests are the interests of their friends who are out. Their photos are tagged with their friends who are out and they're out except they're not out. They're just out in Facebook if anybody looks, which is not what they had in mind surely and not what we had in mind for them, surely. In fact, the degree of potential information inequality and disruption and difficulty that arises from a misunderstanding, a heuristic error, in the minds of human beings about what is and what's not discoverable about them is not our biggest privacy problem.

My students, and I suspect many of the students of teachers in this room too, show constantly in our dialog the difficulty. They still think of privacy as "the one secret I don't want revealed" and that's not the problem. Their problem is all the stuff that's the cruft, the data dandruff of life, that they don't think of as secret in any way but which aggregates to stuff that they don't want anybody to know. Which aggregates, in fact, not just to stuff they don't want people to know but to predictive models about them that they would be very creeped out could exist at all. The simplicity with which you can de-anonymize theoretically anonymized data, the ease with which, for multiple sources available to you through third and fourth party transactions, information you can assemble, data maps of people's lives. The ease with which you begin constraining, with the few things you know about people, the data available to you, you can quickly infer immense amounts more.

My friend and colleague Bradley Kuhn who works at the Software Freedom Law Center is one of those archaic human beings who believes that a social security number is a private thing. And he goes to great lengths to make sure that his Social Security is not disclosed which is his right under our law, oddly enough. Though, try and get health insurance or get a safe deposit box, or in fact, operate the business at all. We bend over backwards sometimes in

the operation of our business because Bradley's Social Security number is a secret. I said to him one day "You know, it's over now because Google knows your Social Security number". He said "No they don't, I never told it to anybody". I said, "Yeah but they know the Social Security number of everybody else born in Baltimore that year. Yours is the other one".

And as you know, that's true. The data that we infer is the data in the holes between the data we already know if we know enough things.

So, where we live has become a place in which it would be very unwise to say about anything that it isn't known. If you are pretty widely known in the Net and all of us for one reason or another are pretty widely known in the Net. We want to live there. It is our neighborhood. We just don't want to live with a video camera on every tree and a mic on every bush and the data miner beneath our feet everywhere we walk and the NET is like that now. I'm not objecting to the presence of AOL newbies in Usenet news. This is not an aesthetic judgment from 1995 about how the neighborhood is now full of people who don't share our ethnocentric techno geekery. I'm not lamenting progress of a sort of democratizing kind. On the contrary, I'm lamenting progress of a totalizing kind. I'm lamenting progress hostile to human freedom. We all know that it's hostile to human freedom. We all understand it's despotic possibilities because the distopias of which it is fertile were the stuff of the science fiction that we read when we were children. The Cold War was fertile in the fantastic invention of where we live now and it's hard for us to accept that but it's true. Fortunately, of course, it's not owned by the government. Well, it is. It's fortunate. It's true. It's fortunate that it's owned by people that you can bribe to get the thing no matter who you are. If you're the government you have easy ways of doing it. You fill out a subpoena blank and you mail it.

I spent two hours yesterday with a law school class explaining in detail why the 4th Amendment doesn't exist anymore because that's Thursday night and who would do that on a Friday night? But the 4th Amendment doesn't exist anymore. I'll put the audio on the Net and the FBI and you can listen to it anytime you want.

We have to fess up if we're the people who care about freedom, it's late in the game and we're behind. We did a lot of good stuff and we have a lot of tools lying around that we built over the last 25 years. I helped people build those tools. I helped people keep those tools safe, I helped people prevent the monopoly from putting all those tools in its bag and walking off with them and I'm glad the tools are around but we do have to admit that we have not used them to protect freedom because freedom is decaying and that's what David meant in his very kind introduction.

In fact, people who are investing in the new enterprises of unfreedom are also the people you will hear if you hang out in Silicon Valley these days that open source has become irrelevant. What's their logic? Their logic is that software as a service is becoming the way of the world. Since nobody ever gets any software anymore, the licenses that say "if you give people software you have to give them freedom" don't matter because you're not giving anybody software. You're only giving them services.

Well, that's right. Open source doesn't matter anymore. Free software matters a lot because of course, free software is open source software with freedom. Stallman was right. It's the freedom that matters. The rest of it is just source code. Freedom still matters and what we need to do is to make free software matter to the problem that we have which is unfree

services delivered in unfree ways really beginning to deteriorate the structure of human freedom.

Like a lot of unfreedom, the real underlying social process that forces this unfreedom along is nothing more than perceived convenience.

All sorts of freedom goes over perceived convenience. You know this. You've stopped paying for things with cash. You use a card that you can wave at an RFID reader.

Convenience is said to dictate that you need free web hosting and PHP doodads in return for spying all the time because web servers are so terrible to run. Who could run a web server of his own and keep the logs? It would be brutal. Well, it would if it were IIS. It was self-fulfilling, it was intended to be. It was designed to say "you're a client, I'm a server. I invented Windows 7, It was my idea. I'll keep the logs thank you very much." That was the industry. We built another industry. It's in here. But it's not in. Well, yeah it is kind of in here. So where isn't it? Well it's not in the personal web server I don't have that would prevent me from falling...well, why don't we do something about that.

What do we need? We need a really good webserver you can put in your pocket and plug in any place. In other words, it shouldn't be any larger than the charger for your cell phone and you should be able to plug it in to any power jack in the world and any wire near it or sync it up to any wifi router that happens to be in its neighborhood. It should have a couple of USB ports that attach it to things. It should know how to bring itself up. It should know how to start its web server, how to collect all your stuff out of the social networking places where you've got it. It should know how to send an encrypted backup of everything to your friends' servers. It should know how to microblog. It should know how to make some noise that's like tweet but not going to infringe anybody's trademark. In other words, it should know how to be you ...oh excuse me I need to use a dangerous word - avatar - in a free net that works for you and keeps the logs. You can always tell what's happening in your server and if anybody wants to know what's happening in your server they can get a search warrant.

And if you feel like moving your server to Oceania or Sealand or New Zealand or the North Pole, well buy a plane ticket and put it in your pocket. Take it there. Leave it behind. Now there's a little more we need to do. It's all trivial. We need some dynamic DNS and all stuff we've already invented. It's all there, nobody needs anything special. Do we have the server you can put in your pocket? Indeed, we do. Off the shelf hardware now. Beautiful little wall warts made with ARM chips. Exactly what I specked for you. Plug them in, wire them up. How's the software stack in there? Gee, I don't know it's any software stack you want to put in there.

In fact, they'll send it to you with somebody's top of the charts current distro in it, you just have to name which one you want. Which one do you want? Well you ought to want the Debian Gnu Linux social networking stack delivered to you free, free as in freedom I mean. Which does all the things I name - brings itself up, runs it's little Apache or lighttpd or it's tiny httpd, does all the things we need it to do - syncs up, gets your social network data from the places, slurps it down, does your backup searches, finds your friends, registers your dynamic DNS. All is trivial. All this is stuff we've got. We need to put this together. I'm not talking about a thing that's hard for us. We need to make a free software distribution device. How many of those do we do?



We need to give a bunch to all our friends and we need to say, here fool around with this and make it better. We need to do the one thing we are really really really good at because all the rest of it is done, in the bag, cheap ready. Those wall wart servers are \$99 now going to \$79 when they're five million of them they'll be \$29.99.

Then we go to people and we say \$29.99 once for a lifetime, great social networking, updates automatically, software so strong you couldn't knock it over if you kicked it, used in hundreds of millions of servers all over the planet doing a wonderful job. You know what? You get "no spying" for free. They want to know what's going on in there? Let them get a search warrant for your home, your castle, the place where the 4th Amendment still sort of exists every other Tuesday or Thursday when the Supreme Court isn't in session. We can do that. We can do that. That requires us to do only the stuff we're really really good at. The rest of it we get for free. Mr. Zuckerberg? Not so much.

Because of course, when there is a competitor to "all spying all the time whether you like it or not", the competition is going to do real well. Don't expect Google to be the competitor. That's our platform. What we need is to make a thing that's so greasy there will never be a social network platform again. Can we do it? Yeah, absolutely. In fact, if you don't have a date on Friday night, let's just have a hackfest and get it done. It's well within our reach.

We're going to do it before the Facebook IPO? Or are we going to wait till after? Really? Honestly? Seriously. The problem that the law has very often in the world where we live and practice and work, the problem that the law has very often, the problem that technology can solve. And the problem that technology can solve is the place where we go to the law. That's the free software movement. There's software hacking over here and there's legal hacking over there and you put them both together and the whole is bigger than the sum of the parts. So, it's not like we have to live in the catastrophe. We don't have to live in the catastrophe. It's not like what we have to do to begin to reverse the catastrophe is hard for us. We need to re-architect services in the Net. We need to re-distribute services back towards the edge. We need to de-virtualize the servers where your life is stored and we need to restore some autonomy to you as the owner of the server.

The measures for taking those steps are technical. As usual, the box builders are ahead of us. The hardware isn't the constraint. As usual, nowadays, the software isn't really that deep a constraint either because we've made so much wonderful software which is in fact being used by all the guys on the bad architecture. They don't want to do without our stuff. The bad architecture is enabled, powered by us. The re-architecture is too. And we have our usual magic benefit. If we had one copy of what I'm talking about, we'd have all the copies we need. We have no manufacturing or transport or logistics constraint. If we do the job, it's done. We scale.

This is technical challenge for social reason. It's a frontier for technical people to explore. There is enormous social pay-off for exploring it.

The payoff is plain because the harm being ameliorated is current and people you know are suffering from it. Everything we know about why we make free software says that's when we come into our own. It's a technical challenge incrementally attainable by extension from where we already are that makes the lives of the people around us and whom we care about immediately better. I have never in 25 years of doing this work, I have never seen us fail to

rise to a challenge that could be defined in those terms. So I don't think we're going to fail this one either.

Mr. Zuckerberg richly deserves bankruptcy.

Let's give it to him. For Free.

And I promise, and you should promise too, not to spy on the bankruptcy proceeding. It's not any of our business. It's private.

This is actually a story potentially happy. It is a story potentially happy and if we do it then we will have quelled one more rumor about the irrelevance of us and everybody in the Valley will have to go find another buzz word and all the guys who think that Sandhill Road is going to rise into new power and glory by spying on everybody and monetizing it will have to find another line of work too, all of which is purely on the side of the angels. Purely on the side of the angels.

We will not be rid of all our problems by any means, but just moving the logs from them to you is the single biggest step that we can take in resolving a whole range of social problems that I feel badly about what remains of my American constitution and that I would feel badly about if I were watching the failure of European data protection law from inside instead of outside and that I would feel kind of hopeful about if I were, oh say, a friend of mine in China. Because you know of course we really ought to put a VPN in that wall wart.

And probably we ought to put a Tor router in there.

And of course, we've got bittorrent, and by the time you get done with all of that, we have a freedom box. We have a box that not merely climbs us out of the hole we're in, we have a box that actually puts a ladder up for people who are deeper in the hole than we are, which is another thing we love to do.

I do believe the US State Department will go slanging away at the Chinese communist party for a year or two about internet freedom and I believe the Chinese communist party is going to go slanging back and what they're going to say is "You think you've got real good privacy and autonomy in the internet veyear in your neighborhood?" And every time they do that now as they have been doing that in the last 2 weeks, I would say ouch if I was Hilary Clinton and I knew anything about it because we don't. Because we don't. It's true. We have a capitalist kind and they have a centralist vanguard of the party sort of Marxist kind or maybe Marxist or maybe just totalitarian kind but we're not going to win the freedom of the net discussion carrying Facebook on our backs. We're not.

But you screw those wall wart servers around pretty thickly in American society and start taking back the logs and you want to know who I talked to on a Friday night? Get a search warrant and stop reading my email. By the way there's my GPG key in there and now we really are encrypting for a change and so on and so on and so on and it begins to look like something we might really want to go on a national crusade about. We really are making freedom here for other people too. For people who live in places where the web don't work.

So there's not a challenge we don't want to rise to. It's one we want to rise to plenty. In fact, we're in a happy state in which all the benefits we can get are way bigger than the technical intricacy of doing what needs to be done, which isn't much.

That's where we came from. We came from our technology was more free than we understood and we gave away a bunch of the freedom before we really knew it was gone. We came from unfree software had bad social consequences further down the road than even the freedom agitators knew. We came from unfreedom's metaphors tend to produce bad technology.

In other words, we came from the stuff that our movement was designed to confront from the beginning but we came from there. And we're still living with the consequences of we didn't do it quite right the first time, though we caught up thanks to Richard Stallman and moving on.

Where we live now is no place we're going to have to see our grandchildren live. Where we live now is no place we would like to conduct guided tours of. I used to say to my students how many video cameras are there between where you live and the Law school? Count them. I now say to my students how many video cameras are there between the front door to the law school and this classroom? Count them.

I now say to my students "can you find a place where there are no video cameras?" Now, what happened in that process was that we created immense cognitive auxiliaries for the state - enormous engines of listening. You know how it is if you live in an American university thanks to the movie and music companies which keep reminding you of living in the midst of an enormous surveillance network. We're surrounded by stuff listening to and watching us. We're surrounded by mine-able data.

Not all of that's going to go away because we took Facebook and split it up and carried away our little shards of it. It's not going to go away cause we won't take free webhosting with spying inside anymore. We'll have other work to do. And some of that work is lawyers work. I will admit that. Some of that work is law drafting and litigating and making trouble and doing lawyer stuff. That's fine. I'm ready.

My friends and I will do the lawyers part. It would be way simpler to do the lawyer's work if we were living in a society which had come to understand it's privacy better. It would be way simpler to do the lawyer's work if young people realize that when they grow up and start voting or start voting now that they're grown up, this is an issue. That they need to get the rest of it done the way we fixed the big stuff when we were kids. We'll have a much easier time with the enormous confusions of international interlocking of regimes when we have deteriorated the immense force of American capitalism forcing us to be less free and more surveilled for other people's profit all the time. It isn't that this gets all the problems solved but the easy work is very rich and rewarding right now.

The problems are really bad. Getting the easy ones out will improve the politics for solving the hard ones and it's right up our alley. The solution is made of our parts. We've got to do it. That's my message. It's Friday night. Some people don't want to go right back to coding I'm sure. We could put it off until Tuesday but how long do you really want to wait? You know everyday that goes by there's more data we'll never get back. Everyday that goes by there's more data inferences we can't undo. Everyday that goes by we pile up more stuff in the hands

of the people who got too much. So it's not like we should say "one of these days I'll get around to that". It's not like we should say "I think I'd rather sort of spend my time browsing news about iPad".

It's way more urgent than that.

It's that we haven't given ourselves the direction in which to go so let's give ourselves the direction in which to go. The direction in which to go is freedom using free software to make social justice.

But, you know this. That's the problem with talking on a Friday night. You talk for an hour and all you tell people is what they know already.

So thanks a lot. I'm happy to take your questions.