
DAY
ONE

DAY ONE

“WE NEVER KNEW THAT CAPITALISM WAS GOING TO BE EATEN BY ITS SON—TECHNOLOGY.”

DAY ONE

NOTE FROM THE EDITOR

2020, AMSTERDAM

When Harmony asked us at Popcorn Brain to research opportunities for communication for Harmony, my mind immediately went to how to find a method that would instantly make any research we do, relevant beyond the mere fact we did research and applied it to the project at hand, like any other conventional project. I wanted the research to live a life of its own, in parallel even. That is why we have packaged and written in a format for an audience beyond Harmony. We created the zine DAY ONE.

This magazine is best read in a toilet. Disconnected from the outside world, alone with you most biological needs. The only place you can connect with a reality less tainted by societal rules and conventions. This is the place to be inspired. Everybody poops.

We hope this document will be read by Harmony's inner circle, but more importantly, by your close allies, benefactors and other partners affiliated to the success of Harmony, and Blockchain in general.

Harmony has a lot to gain from a community ambitious for carving out a slice of the future, and with that, our societies next iteration.

This future is approaching fast, and unlike Raymond Kurzweil's idea of singularity -A point in time where the realities of the "then" are so drastically different from the "now", that our wildest dreams can't even begin to grasp it- we feel this future is arriving here, albeit subtly, and its symptoms are available if you care to ask these fragile questions and dig a little deeper than the technically correct.

There is no way all of human society, from the engineered to the emoted, from the financial to the philosophical, evolves at the same speed. There is no speed constant in our society. Therefore, not all things will reach this point of singularity at the same time. Not all innovations have exponential growth, and not all exponential growth moves at the same rate.

Being ready for a future is not only smart entrepreneurship in general. It's even more important for a company that owes its birth right to the drastic change of the status quo. If that's true, ONE would be wise to nudge the future a bit, while the future is at its most fragile… which is now.

Yours truly,

Diego Molina
Chief Creative
Popcorn Brain

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In offices around the globe, the world's craftiest technical brains are working on something called Blockchain technology.

They believe it will revolutionize the world,bring transparency to transactions, restore the idea of trust, and bring power back into the hands of people.

But despite all their brain power, none have an answer to the question: how will blockchain become a normal part of people's lives?

But what they don't realize is that the answer is right around the corner. Blockchain will NOT force the world to move towards it right now. Rather, the world will move to Blockchain...out of necessity.

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DAY ONE

INTRODUCTION

"ROBOTS WILL TAKE YOUR JOB"

BY CALVIN GOLDSTEIN

MR. BUCKET LOOKED SOLEMN AND SURPRISED WHEN HIS SON CHARLIE ASKED WHY HE WASN'T AT WORK.

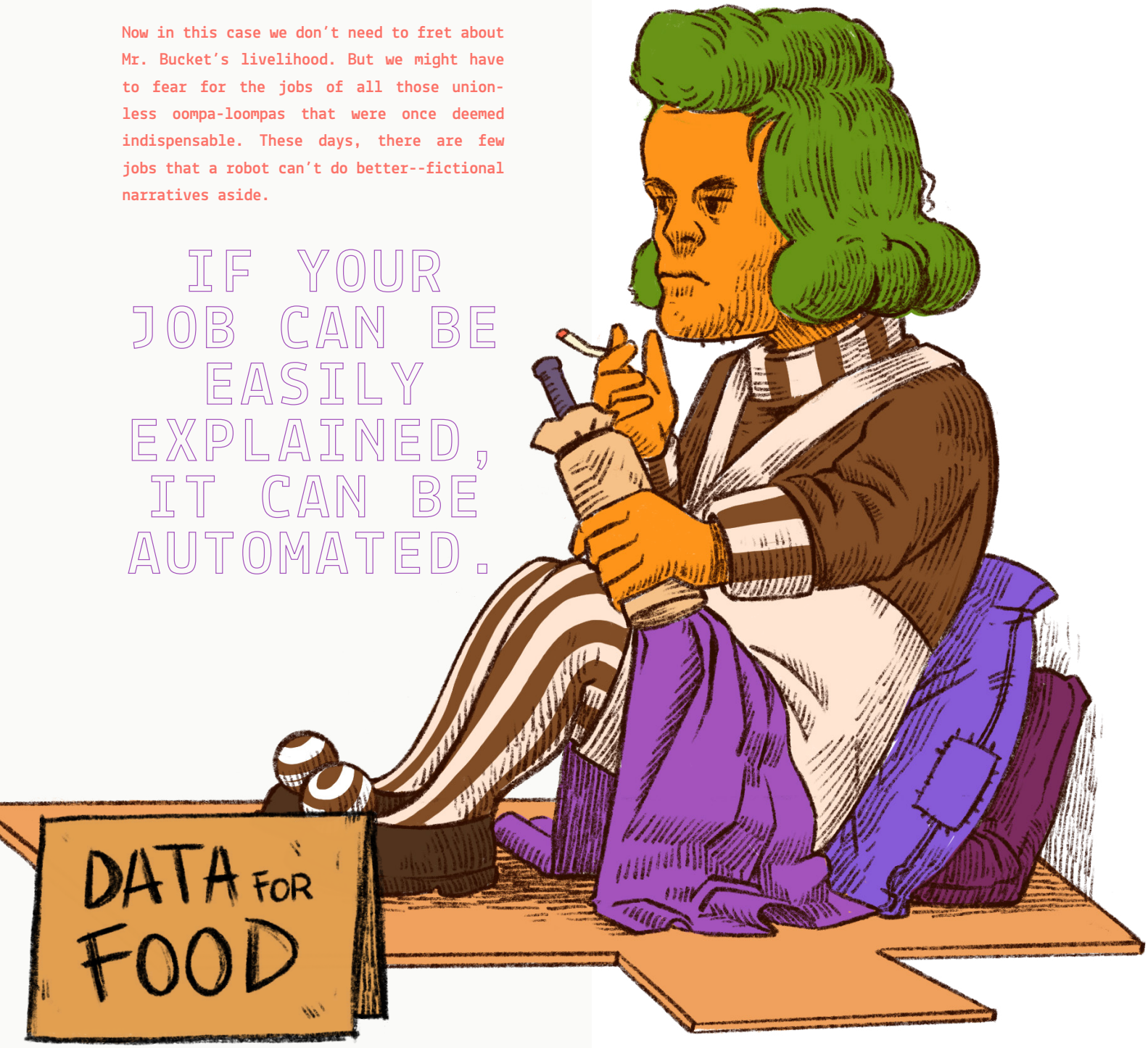
"OH, WELL, THE TOOTHPASTE FACTORY THOUGHT THEY'D GIVE ME A BIT OF TIME OFF,"

MR. BUCKET ANSWERED WITH A SAD GRIN.
"LIKE SUMMER VACATION?"
"SURE..SOMETHING LIKE THAT."

But it wasn't a vacation at all. In fact, Mr. Bucket had been fired by the toothpaste factory. An upswing in candy sales led to a rise in cavities, which led to a rise in toothpaste sales. The toothpaste factory cashed in on these candy-fueled sales, and soon enough Mr. Bucket was replaced by a robot that could do his job quicker, cheaper, and more efficiently.

Now in this case we don't need to fret about Mr. Bucket's livelihood. But we might have to fear for the jobs of all those union-less oompa-loompas that were once deemed indispensable. These days, there are few jobs that a robot can't do better--fictional narratives aside.

IF YOUR JOB CAN BE EASILY EXPLAINED, IT CAN BE AUTOMATED.



DAY ONE

SO, HOW CAN YOU KNOW IF YOUR JOB IS SAFE FROM THE PRYING HANDS OF ROBOTS AND ARTIFICIAL INTELLIGENCE? ANDERS SANDBERG, OF OXFORD'S FUTURE OF HUMANITY INSTITUTE, PUTS IT AS BLUNTLY AS THIS: "IF YOUR JOB CAN BE EASILY EXPLAINED, IT CAN BE AUTOMATED." AND SO WHILE THE SILICON VALLEY'S TECHNO ALL-STARS MIGHT STAY DRY FROM THE ONCOMING FLOOD OF AUTOMATION, MOST PEOPLE HAVE A LEGITIMATE REASON TO FEAR THE LOSS OF THEIR JOB IN THE NEAR FUTURE.

According to the McKinsey Global Institute, the economics research arm of McKinsey consultancy firm, the number of American jobs lost due to midpoint automation could add up to 39 million by 2030 while 73 million jobs could be destroyed by rapid automation. Even if the number of jobs lost is a fraction of this predicted rate, that still means millions of Americans will be jobless.

For as long as it's been possible we have willingly offloaded jobs to automation. Before the alarm clock was invented around the 1920s, those who had to wake up early relied on someone known as a knock-up who would use a long stick to bang on your window until you awoke. With new technology, the role of knock-ups became obsolete, and hardly anyone complained. But now we've reached a daunting crossroads where jobs that would have been unthinkable for anything else but a human to do are being taken by robots that can simply do the job better.

The lawyer is a prime example of a job--a white-collar job for that matter--that was believed to be untouchable by artificial intelligence. After all, each case is unique, requiring discernment from the human heart and mind. But data scientists and their approach to deconstructing any task and reducing it to numbers, are finding ways to replace lawyers with machines. While judges and lawyers in court will be safe for now, Forbes predicts that paralegal and legal research roles will be automated by the next decade. Law firms are already using AI to more efficiently perform due diligence, conduct research and bill hours.

Like the legal sector, the ominous cloud of automation looms large over the trucking industry. Trucking is the most common job in 29 states, meaning it's impossible to overstate the importance of this entry-level, middle-class job for millions of Americans. Still, if autonomous trucks can do the job better and cheaper (Tesla and Waymo bet they can), then there is little stopping automation from seizing this industry. With total trucker salaries in the US alone adding up to $300 billion, there's a gigantic financial incentive for automaters to swoop in and take the wheel.

Of course, while there's much potential gain for autonomous automakers, there's even more to lose for the workforce that not only relies on trucking, but driving in general. 3 percent of the American workforce works in driving, and that doesn't include those working in gas stations, trucker stops, roadside restaurants, motels, and repair shops. Take away the drivers, and the economy built around driving could be left with breadcrumbs while the automaters feast.
There are two general narratives when it comes to the debate about the future after


SO, WHAT DO YOU DO?

automation. The first is that mass-adoption of artificial intelligence (digital) and robots (physical) will lead to widespread unemployment. This is the narrative upon which presidential candidate Andrew Yang has built his proposal for Universal Basic Income (see page # for more on this).

The second narrative claims that the jobs that are automated away will eventually be replaced by a wave of new jobs; yes, widespread unemployment will come as a result of automation, but it will be followed by a transitionary period in which people are trained to do these new jobs. This is the core rationale that Sen. Elisabeth Warren has deployed to attack Yang's proposal, a rationale that is constructed upon a naive understanding of history and economics today. It's true that new jobs have always emerged with new advancements in technology, but there is no assurance that this historical trend will continue at a pace that comes close to matching the rate of unemployment caused by automation.

Futurist and author Federico Postino makes this argument in a response to criticisms of his groundbreaking book on technological unemployment in 2015. To prove this, Postino gathered all the occupations in America, listed them in order by number of workers, and asked himself a simple question: which of these occupations were invented in the last 50 years? After all, if technology is only displacing jobs temporarily, then there must be a bunch of new occupations invented in recent times that employ large numbers of people considering how rapidly technology has advanced in the last few decades.

A look at Postino's list proves otherwise. We have to scroll all the way down to the 33rd occupation on the list to find a recently invented job: computer programming, which was actually invented nearly 70 years ago.

THE REALITY IS THAT NEW JOBS ARE VERY SCARCE, VERY SOPHISTICATED, VERY DIFFICULT, AND ONLY A SELECT FEW PEOPLE ARE CAPABLE OF DOING THEM. AS POSTINO PUTS IT: THESE ARE CERTAINLY NOT THE JOBS THAT A 45-YEAR-OLD TRUCK DRIVER CAN TRANSITION TO AFTER LOSING THEIR JOB, ESPECIALLY IF THEY'RE COMPETING WITH SOME UKRAINIAN WIZ KID WHO DESIGNS FOUR APPS A DAY.
FEW JOBS ARE SAFE FROM AUTOMATION. IN SAN FRANCISCO, WE'RE ALREADY SEEING BARISTAS BEING REPLACED BY COFFEE-SERVING ROBOTS. IN HOSPITALS, RADIOLOGISTS ARE BEING REPLACED BY AI ALGORITHMS THAT CAN DIAGNOSE QUICKER AND MORE EFFICIENTLY. ACROSS ALL SECTORS, BOTH LOWER-SKILLED JOBS SUCH AS RETAIL CLERKS AND FACTORY WORKERS TO HIGHER-SKILLED JOBS LIKE SURGEONS AND COPYWRITERS FACE THE LOOMING THREAT OF AUTOMATION. AND WHILE HIGHER-SKILLED WORKERS ARE MORE LIKELY ONES TO TRANSITION TO WHATEVER NEW, SOPHISTICATED JOBS EMERGE, IT IS THOSE WHO WORK LOWER-SKILLED, BLUE-COLLAR JOBS WHO MAY NOT BE AS FORTUNATE.

It's a troubling reality, especially considering that people from marginalized communities tend to be the ones who rely most on these blue-collar jobs. An alarming report from McKinsey & Co echoes this actuality, finding that black American males are overrepresented in high-displacement job categories. And unlike Mr. Bucket, those men won't have a son named Charlie to inherit a chocolate factory to keep them afloat.

But enough with the doom and gloom. Yes, automation could be disastrous, but it could also be fucking awesome. It could free us from the biological need to work and allow us the luxury to pursue a life defined by our own personal agency. Hell, new technology could even make all the needs of life so inexpensive that it will be virtually free to live.

It all depends on whether or not we can embrace automation in a way that allows us to share the spoils rather than it concentrating in the hands of a few powerful players who have seized the technological reigns. But in order for that to happen, we need to rewire the way our brains understand work, value, and the rules of the economy today.

"WITH TOTAL TRUCKER SALARIES IN THE US ALONE ADDING UP TO $300 BILLION, THERE'S A GIGANTIC FINANCIAL INCENTIVE FOR AUTOMATERS TO SWOOP IN AND TAKE THE WHEEL."

"ESPECIALLY IN MODERN CAPITALIST CULTURE WHERE NO OBVIOUS CLASS MARKERS EXIST, THE JOB DEFINES YOU AND YOUR PLACE IN THE PECKING ORDER. UNLESS YOU WANT TO LANGUISH AT THE BOTTOM OF THE PECKING ORDER, YOU ARE CONDEMNED TO CHASE THAT THING WE CALL OUR JOB — AS SISYPHUS PUT IT."

CHAPTER 1

AUTOMATION WILL CHANGE WHAT IT MEANS TO BE HUMAN

BY SOPHOCLES POLITAKOS

THE PROMISE OF AUTOMATION IS THAT IT WILL LEAD US TO AN ECONOMIC SYSTEM THAT FREES HUMANS FROM THE BIOLOGICAL NECESSITY TO WORK. TECHNOLOGY WILL PROVIDE THE SERVICES AND GOODS WE RELY ON AT AN EVER-LOWER COST, AND OUR MEANS OF FINANCIAL PRODUCTION WILL GRADUALLY BE ABLE TO FUNCTION PERFECTLY FINE WITHOUT US. WE WON'T HAVE TO WORK BECAUSE ROBOTS AND ALGORITHMS WILL SIMPLY DO OUR JOBS BETTER AND MORE EFFICIENTLY.

Despite this promise, automation is typically received with fear rather than open arms. Pop culture might be partially to blame for this. The narrative that robots will one day become smarter than their creators and take over the world has been recycled so often that it's practically engrained in our collective conscious. But perhaps that's not what is really behind our fear of automation. Perhaps what scares us most is that automation threatens a main pillar of what defines us as humans today: our work.

Some of us have jobs that fulfill our vocation and the rest of us work jobs just because, well, they pay the bills. But no matter what your job is, there is no denying the oversized role it plays in adult life.Your job determines where you spend your time and for how long, which, if you live in America, is around 47 hours a week on average, or 9.4 hours a day. Your job determines what you can afford and what you certainly cannot. And your job determines the answer to the default question that enters every conversation between two strangers: "What do you do?"

You wouldn't dare answer this question with anything other than a description of your job because you know what that question really means: what's your status and how much money do you make? Especially in modern capitalist culture where no obvious class markers exist, the job defines you and your place in the pecking order. Unless you want to languish at the bottom of the pecking order, you are condemned to chase that thing we call our job—as Sisyphus put it. Even if you like to believe your job doesn't define you, it does shape how people identify with you.

With each job comes a different set of psychological requirements and consequences—the mindsets a job breeds, what doing the job requires of your inner life, how it expands us and (crucially) limits us. These requirements and consequences can provide some telling glimpses into a person: one can infer how the psychological character of a prison guard differs from that of a banker or a masseuse.

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THE HYPERNORMALISATION OF WORK

IF WE'RE LUCKY, VOLTAIRE SAYS, THEN OUR WORK WILL AT LEAST KEEP US FROM THE JAWS OF THREE GREAT EVILS—BOREDOM, VICE AND POVERTY.

Or in the Japanese life philosophy of ikigai, which translates to "a reason for being", you hit the sweet spot of ikigai when your work manages to combine what you love, what the world needs, what you are good at, and what you can get paid for. When you feel ikigai, you feel sense of meaning to life.

Some of us find our ikigai and discover meaning in our jobs, but most of us aren't that lucky. Most of us will work a job only because we are obliged to until the age of 70 or so when we're rewarded with retirement and allowed to decay as we please. But if this is the case—if most of us aren't finding our ikigai in work—then what stops us from accepting and embracing a future where work isn't a necessary part of the equation?

WHAT STOPS US IS THAT WE SIMPLY DON'T KNOW HOW TO. THE CONCEPTUALIZATION OF WORK AS THE CENTERPIECE OF OUR LIVES HAS BECOME SO HYPERNORMALISED THAT WE CANNOT CONCEIVE OF AN ALTERNATIVE WAY OF ORGANIZING OURSELVES. TO EMBRACE A SOCIETY WITHOUT WORK IS TO GO AGAINST THE VERY HARDWIRING THAT PROGRAMS OUR SOCIETY.

There was a time where the elites in societies from Asia to Europe aspired to live a life free from gainful employment. In fact, Aristotle defined a "man in freedom" as the pinnacle of human existence, an individual freed of any concern for the necessities of life and with nearly complete personal agency. Work was a necessity to be avoided if possible. These days you might be labeled a gypsy for adopting such a mindset.

The term hypernormalisation was first coined by anthropologist Alexei Yurchak, who used it to diagnose the state of the Soviet Union in the years preceding its collapse. Russia had become a society where everyone knew what their leaders said was not real because they could see with their own eyes that the economy was falling apart. But the Soviet System had been so successful at propagandizing itself and restricting the consideration of possible alternatives that no one could possibly imagine anything other than the status quo. Even though everything in Soviet Russia was clearly fake, the fakeness had seeped so deeply into every aspect of society that it was all people knew; it had become hypernormal. The status quo of work has also become hypernormal.

Before the advent of capitalism, most humans were bound temporally to the changing of the seasons and the cost of castor oil. This was because humans inhabited their place of production, creating a bridge between their livelihood and their productive capacity. They lived on the same land that provided them all they needed to survive: food, clothing, water, and shelter. Capitalism shattered this connection between a man and his land, pushing the masses into urban centers where they had to work wage labor to secure a livelihood.

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"THE CONCEPTUALIZATION OF WORK AS THE CENTERPIECE OF OUR LIVES HAS BECOME SO HYPERNORMALISED THAT WE CANNOT CONCEIVE OF AN ALTERNATIVE WAY OF ORGANIZING OURSELVES. TO EMBRACE A SOCIETY WITHOUT WORK IS TO GO AGAINST THE VERY HARDWIRING THAT PROGRAMS OUR SOCIETY."

LOCKED IN PARADIGM

DAY ONE

The Industrial Revolution saw a huge portion of humanity transition away from the production of life essentials such as food. Western nations built economies based upon manufacturing and made the division of labor a standard practice. In no time, humans went from performing a wide array of tasks each day on their own land to performing a single task over and over and over.

Now, as we know, most Western countries are transitioning to economies driven by data and information. More and more people are removed from any sort of physical production at all, and work often takes place in an office and is mediated by the computer.

We have lost all touch with the world that existed before capitalism, so much so that we don't even know where or how our food is grown or who made the clothes on our back. All we know is that in order to have access to these life essentials, we must generate income through gainful employment. There is hardly an alternative, especially within urban areas where the majority of the world currently lives.

The hypernormalisation of work as a core part of our lives is the result of a few generations having lived within this detached urbanized world that separates man from nature. Industrialization and our globalized capitalist systems needed the laborer who manufactured products and created value on behalf of companies. It became normal to spend the majority of our waking hours at work. But as we speak, new technologies and automated systems are gradually rendering the worker obsolete. And like the Soviet Union in the years preceding its collapse, we too are sleepwalking towards a period of intense, rapid change.

HOW ARE THE SPOILS OF POST-CAPITALIST TECHNOLOGY TO BE SHARED AMONGST SOCIETY?

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TECHNOLOGICAL UNEMPLOYMENT

JOHN MAYNARD KEYNES, AN ECONOMIST SO FAMOUS AN ENTIRE SCHOOL OF MODERN THOUGHT BEARS HIS NAME, FORESAW THE FUTURE WE FIND OURSELVES IN NOW. IN 1930, HE PUBLISHED AN ESSAY TITLED ECONOMIC POSSIBILITIES FOR OUR GRANDCHILDREN WHERE HE DESCRIBED A WORLD WHERE WORK WILL INCREASINGLY HUM ALONG WITHOUT US (AUTOMATION), PERHAPS ACHIEVING WHAT KEYNES DESCRIBED AS TECHNOLOGICAL UNEMPLOYMENT, IN WHICH TECHNOLOGY REPLACES HUMAN LABOR FASTER THAN WE DISCOVER NEW JOBS.

It seems Keynes was spot on: The McKinsey Global Institute predicts automation will remove up to 800 million people worldwide from their jobs by 2030, exactly a century after Keynes made his prediction.

Keynes claimed that technological unemployment would be followed by a "temporary phase of maladjustment", a period of uncertainty where we would have to discover ways to adapt to a world "deprived of its original purpose." Should only a fraction of McKinsey's predicted 800 million layoffs happen, surely it will mark the beginning of this temporary period of uncertainty and force us to answer a couple of massive questions that will define the future of humanity.

If we have any hope of fulfilling the promise of automation, we must we figure out how to answer this crucial question. We know that the structure of today's digital economy is concentrating wealth like never before: those deploying the robots and algorithms are taking the lion's share of global wealth while the gap between the elites and the rest of society grows wider. According to renowned economist Brian Arthur, we can trace the origins of the political turmoil that currently plagues the US and Europe to this widening financial gap.

Still, despite the grossly uneven distribution of wealth today, Arthur is adamant societies will discover how to share the productive benefits of technology later this century for two primary reasons: because it will be easier and because they must. Over time, technology will enable more production with less sacrifice. Meanwhile, history suggests that concentration of wealth in too few hands leads to social pressures that will either be addressed through politics or violence or both.

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REINVENTING HUMANITY

ASSUMING ARTHUR'S PREDICTIONS COME TO FRUITION AND THE BENEFITS OF TECHNOLOGY BECOME MORE WIDELY AVAILABLE — THROUGH REFORM OR REVOLUTION — WE WILL FACE ANOTHER VEXING QUESTION THAT STRIKES AT THE CORE OF WHAT IT MEANS TO BE HUMAN: WHEN TECHNOLOGY CAN DO NEARLY ANYTHING, WHAT THE HELL ARE WE SUPPOSED TO DO?

We cannot pretend that stripping humans of the identity they derive from their work will not come without consequences. The father of psychoanalysis himself, Sigmund Freud, described work and love as the two tenets that define what it means to be human, a claim that new research has given weight to.

In a recent study at the University of Stirling, researchers looked at whether the threat of unemployment led people to think more about dying. What they found was that simply thinking about being unemployed could lead people to have higher levels of death-related thoughts, although those feelings were lessened for those in a relationship or those who perceived the job market as being healthy. Though it is just one study, it does foreshadow the darker consequences of a world where people don't need to work.

HOW WILL WE FILL THE VOID THAT WILL EMERGE THROUGH UNEMPLOYMENT? HOW WILL WE DEFINE OUR OWN SENSE OF PURPOSE, MEANING, AND VALUE? HOW WILL WE AVOID A NIHILISTIC, HUXLIAN FUTURE?

While it might be tempting to rush to dystopian conclusions about a world without jobs, we must entertain the beautiful opportunities humans to reinvent themselves when they aren't obliged to work for a living.

We can explore this idea through the work of philosopher, historian, and journalist Hannah Arendt, who in the 1950s designed a far-reaching framework for understanding all of human activity. In The Human Condition, a beautiful, challenging, profound work, Arendt describes three levels of what she defines, after the Greeks, as the Vita Activa.

Labor generates metabolic necessities — the inputs, such as food, that sustain human life. Work creates the physical artifacts and infrastructure that define our world, and often outlast us — from homes and goods to works of art. Action is the ultimate stage of life: it encompasses interactive, communicative activities between human beings — the public sphere. In action, we explore and assert our distinctiveness as human beings and seek immortality.

Over the next 100 years, AI and robotic systems will increasingly dominate labor and work, producing necessities and the physical artifacts of human life, enabling more of us to ascend (Arendt did present this as ascending — this is a qualitative value judgment) to the realm of action. Of course, some people might engage in labor or work by choice, but choice is the essential distinction.

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WORK IS NOT OPTIONAL

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PANDORA'S BOX

ALL IN ALL, THE PROMISE OF AUTOMATION IS SOMEWHAT OF A PANDORA'S BOX. AUTOMATION COULD BE LIBERATION, SERVING AS TECHNOLOGICAL REALIZATION THAT WE HAVE ACTUALLY BEEN LIVING IN A DYSTOPIA --- ONE WHERE THE WORK WE DO ACTUALLY DEFINES OUR IDENTITY. OR PERHAPS THE OPPOSITE MIGHT BE TRUE. PERHAPS WE WILL FIND OURSELVES FAT AS THE CHARACTERS FROM WALL-E, LYING ON A FLOATING LAWN CHAIR REGRETTING THE DAY WE DITCHED OUR WAGE-BASED OCCUPATION FOR A LIFE OF LEISURE.

Or even worse, Arthur's predictions turn out to be completely wrong: The fortunes of post-capitalist technology never get distributed fairly whatsoever, and we wind up living in a world where a small cohort of ultra-rich elites rule a subdued, technology-deprived majority.

Whether humanity can benefit from automation, we cannot know for sure. But by recognizing that, yes, automation will lead to mass-unemployment, we can better prepare ourselves from its consequences. All it requires is for us to remove ourselves from the hypernormalised idea that work is a necessary part of life and start imagining the new, higher roles humans can take on in a world without wage-based employment.

AUTOMATION COULD BE LIBERATION, SERVING AS TECHNOLOGICAL REALIZATION THAT WE HAVE ACTUALLY BEEN LIVING IN A DYSTOPIA ---ONE WHERE THE WORK WE DO ACTUALLY DEFINES OUR IDENTITY.


50% DISCOUNT
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CHAPTER 2

THE DECEPTION ECONOMY

BY RUPERT J. ROSINTHROPE

THERE WAS A TIME WHEN THE INTERNET WAS SEEN AS THE GATEWAY DRUG TO A HEALTHIER, WEALTHIER, MORE EQUITABLE WORLD. WE DROOLED OVER THE PROMISE AN OPEN INTERNET THAT WOULD MAKE INFORMATION FREE AND ACCESSIBLE TO ALL. IT WAS SUPPOSED TO LEAD TO THE 'DEMOCRATIZATION OF EVERYTHING.'

BUT LIKE MOST DRUGS, WHAT WAS COOL AND EXCITING AT FIRST QUICKLY BECAME ABUSED. FROM A FREE INTERNET, THE MOST MAINSTREAM SOCIALIST IDEA TO EVER BECOME INGRAINED IN POP CULTURE, WE WOUND UP WATCHING DONALD TRUMP BECOME PRESIDENT OF AMERICA ON A CAMPAIGN DEFINED BY ITS ABILITY TO FEED THE INSATIOUS APPETITE OF THE INTERNET. WE HAVE WATCHED THE INTERNET BECOME A PLATFORM WHERE A FEW SELECT MEN HAVE BECOME INFINITELY RICH AND POWERFUL. AND WE HAVE WITNESSED A NEW ECONOMY ARISE WHERE CAPTURING ATTENTION AND DECEIVING USERS IS FAR MORE PROFITABLE THAN ANY INDUSTRY SEEN BEFORE.

All the while the global gap between rich and poor has never been more extreme: In 2018, 26 people owned the same as the 3.8 billion that make up the poorest half of humanity. We labeled this era of economics as the information economy, but that's not truly a reference to the glut of information found readily online. What the word 'information' really refers to is the valuable data that is quietly being extracted and utilized to influence us in ways we can't quite understand.

Where the promise of the Internet was to create a space where information is shared freely, the reality is that the web is structured around a means of exchange which is never clear and where it's impossible to know the true motives behind the things we see online. Indeed our economy is propped up by infinite information, but it seems more and more that this information is meant to deceive rather inform us: welcome to the deception economy.

So...where did it all go wrong?

Perhaps it all starts with a misconception of the word 'free'. For all glory we give to the word 'free', a thick fog of confusion often surrounds the meaning of the word. Free can either mean something 'that requires no payment', or something that has 'little to no restriction'.

In various Romance and Germanic languages, the distinction between these two meanings is made clear by two different words: gratis and libre, with the former meaning 'no cost' and the latter meaning 'no restriction' or liberated.

NOW WE CAN SAY THAT ONE IS LIBRE ON THE INTERNET WHEN PUBLISHING AND SPREADING INFORMATION: THERE'S LITTLE TO NO RESTRICTION STOPPING YOU FROM DOING SO. BUT WE CANNOT SAY THAT THE INTERNET IS GRATIS: ALTHOUGH WE ALL BELIEVED IT WOULDN'T COST A THING TO BE ONLINE, WE ALL PAY A HEAVY COST. THAT COST IS INTENSE SURVEILLANCE AND DATA COLLECTION.

But can we really say this is a heavy cost in exchange for access to the Internet?

Well, some might respond 'Let them have my data, I have nothing to hide.' Others might answer by saying 'Hey, that data is being used to enhance the user experience, why should I care?'

While both responses have a certain degree of validity to them, they overlook something that should be very important to you, which is that your data is worth a fuck load of money and gives tech companies an incredible amount of information about the world, providing a meta-perspective the NSA could only dream of having.

But instead of you being paid even a cent for that data, tech companies are using that data to generate unprecedented fortunes, concentrating wealth in a way the world has never seen before.

The very trade-off we make in exchange for using the Internet is, in part, only plunging the world deeper into insurmountable inequality.

The idea that, unlike just about anything else, everything on the Internet must be purely public and available for free still sounds good today. But as Jaron Lanier, the father of the term virtual reality points out, this basic principle of free internet was incompatible with another thing the public loves:

THE BILLIONAIRE ROCKSTAR TECH-ENTREPRENEUR WHO STARTED OUT IN A GARAGE.

We fell in love with the idea of the tech entrepreneur who transcends the formal boundaries of bureaucracy and politics to make a dent in the status quo. We fell in love with people like Elon Musk and Steve Jobs. When Jobs died, a blanket of colorful flower bouquets and tears covered the floors of every monochrome Apple store on Earth, his death mourned like that of a great fallen leader. The only problem with all this is:

HOW CAN WE POSSIBLY CELEBRATE INTERNET ENTREPRENEURSHIP WHEN EVERYTHING IS SUPPOSED TO BE GRATIS?

DAY ONE

THE ONLY SOLUTION WAS FOR THE INTERNET TO OPERATE ON AN ADVERTISING MODEL.

The earliest ads on websites like Google were rather innocent, like a banner inviting you to send flowers to a loved one. But over the past couple decades, computers have become so powerful and the algorithms so clever and the storage capabilities so vast that what started out as advertising really can't be called advertising any longer. In the words of Lanier, it should be called "behavior modification." We'll get more into this later.

DO YOU ACCEPT COOKIES?

You probably click 'yes, I accept' upon receiving this message multiple times a day. By doing so, you are signing a digital contract in which you agree to surveillance and intensive data collection at all times—even with the tightest of privacy settings. But the extent to which you're being spied on and just how many parties are gaining access to your data goes light years beyond what you might imagine.

Google, for example, provides its users with the possibility to download all the information they have on you. When Dylan Curran, a writer for the Guardian, took the plunge and downloaded his Google data folder, he wound up with a file that is 5.5GB big, which is roughly equivalent to 3 million Word documents.

Beyond your simple personal information, the file includes your bookmarks, emails, contacts, your Google Drive files, your YouTube videos, the photos you've taken on your phone, the businesses you've bought from, the products you've bought through Google and much, much more.

The algorithms know where you've been in the world physically, what music you listen to, what phones you've owned, how many steps you walk in a day, what apps you use, and who you interact with. Google can even create a map of where you've been and at what time you were there. And all of this they use to create a profile of yourself that helps advertisers target you: they can accurately guess whether you're Jewish or Muslim, whether you're single or married, or whether you're anorexic or suicidal.

But it's not just about the 5.5GB they have on you. It's about the 5.5GB they have on you, your partner, and your MF-ing dog. With all this information they can trace how your data relates to the data of everyone else, creating a web of interactions that help to explain how you relate with the rest of the world, which better helps to create a highly accurate profile of yourself for advertisers to target.

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How accurate?

IN 2012, THE ALGORITHMS DEPLOYED BY RETAIL GIANT TARGET PREDICTS THAT A WOMAN WAS PREGNANT BEFORE SHE KNEW IT BASED ON THE PERSONAL CARE PRODUCTS SHE WAS VIEWING ONLINE.

Pregnant women are known to experience changes in their sense of smell, and the products she was viewing had lighter fragrances than what she was searching for in the months prior.

Based upon this, the algorithms assumed she was pregnant and started presenting advertisements for strollers and other baby-related products. The sudden changes in ads alerted the woman that she might be pregnant, which tests confirmed were true. We're now 7 years further down the line: you can imagine how clever the algorithms have become in that time.

IT'S NOT JUST YOUR INPUT THAT FEEDS THE ALGORITHMS. THE ALGORITHMS THEMSELVES ARE CONSTANTLY ADJUSTING, DOING MICRO-EXPERIMENTS THAT CREATE LITTLE VARIATIONS IN THE CONTENT YOU'RE SEEING IN ORDER TO FIND OUT WHAT KEEPS YOU ONLINE THE LONGEST—-AND MORE IMPORTANTLY, WHAT TRIGGERS YOU TO CLICK 'BUY' WHEN YOU SEE SOMETHING YOU LIKE.

IN ESSENCE, YOU ARE A DOG IN PAVLOV'S EXPERIMENTS, WITH THE ALGORITHMS TRYING TO TRIGGER YOUR DIGITAL SALIVATION. THIS IS WHAT LANIER MEANS BY BEHAVIOR MODIFICATION.

DAY ONE

DATA-DRIVEN INEQUALITY

To understand how all of this leads to greater economic inequality, it's essential to understand the structural differences between the industrial economy of the past and the information economy of today, which is based on data rather than labor.

The 20th century was defined by an industrial economy where the biggest multi-billion dollar companies all employed hundreds of thousands of employees, with each one contributing to the creation of value for that company. The information economy operates on radically different terms: while tech companies generate unfathomable fortunes, they only employ a fraction of the people that major companies once used to do.

That's because these companies don't need employees to create value. With the algorithms in place, all they need is you and I.

Last year alone, Facebook made a brain-melting $55.8 billion selling your data to third-party advertisers. Well, not selling your data, but selling a service to advertisers in which Facebook uses its algorithms to curate the perfect subset of users for whatever product they're trying to sell. And even though you created the data that Facebook uses to make profit, you didn't receive a single cent.

One of the worrying trends that shows we're descending towards greater inequality is the rapid growth of a measure called Revenue Per Employee, a measure that is generally used to measure a company's productivity but also shows how money is concentrating in the world.

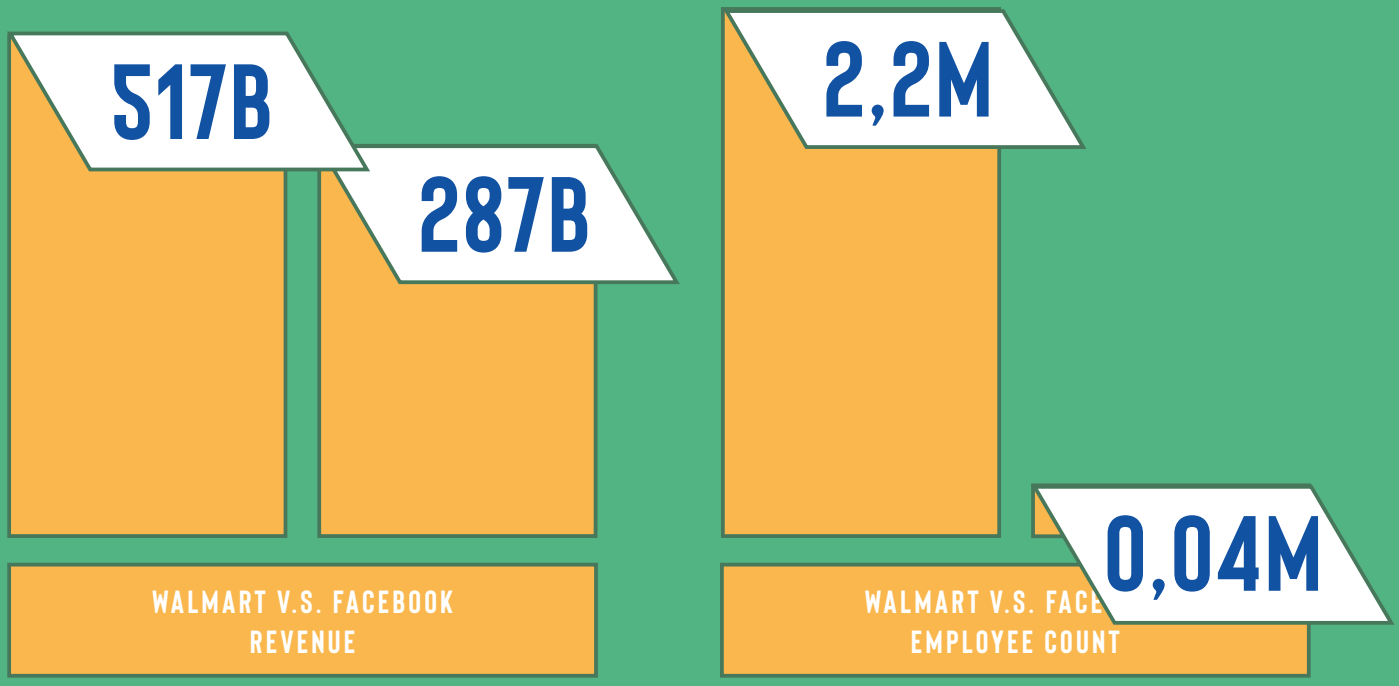
WHEN WE LOOK AT A LIST OF BILLION-DOLLAR COMPANIES RANKED BY REVENUE PER EMPLOYEE, WE SEE RETAIL-GIANT WALMART SITTING NEAR THE BOTTOM. WALMART, WHICH IS LARGEST PRIVATE EMPLOYER IN THE WORLD, GENERATES $235,450 FOR EACH OF ITS 2.2 MILLION EMPLOYEES WORLDWIDE. AS MASSIVE AS THAT FIGURE SEEMS, IT PALES IN COMPARISON TO THE $7.23 MILLION THAT FACEBOOK RAKES IN PER EMPLOYEE—BEARING IN MIND THAT FACEBOOK ONLY HAD 39,651 EMPLOYEES AS OF SEPTEMBER 2019.

Put together, Facebook, Apple, Microsoft, and Alphabet (Google's parent company) are worth well over $3 trillion, and yet, they only employ 422,685 people in total. To put that into perspective, the market cap of these four companies together is nearly the same as the entire GDP of Germany, Europe's most populated country with a workforce of 43 million people.

Forecasts predict these tech giants will only continue to concentrate wealth in the coming years. Even so, they must be careful: capitalism only works if there are enough successful people to be the customers. With further wealth concentration, the looming threat of automation, and a shrinking middle class, the internet users of the future won't be able to afford the products that are being advertised to them. Nobody wins from that.

What all of this tells us is maybe it's better to not have an Internet that is gratis, for a gratis Internet incentivizes spying and the creation of content that is meant to take a stranglehold of your attention. What it tells us is that it's time to consider an alternative, perhaps where users pay a small subscription fee to an Internet that places value on truthful, verifiable content.

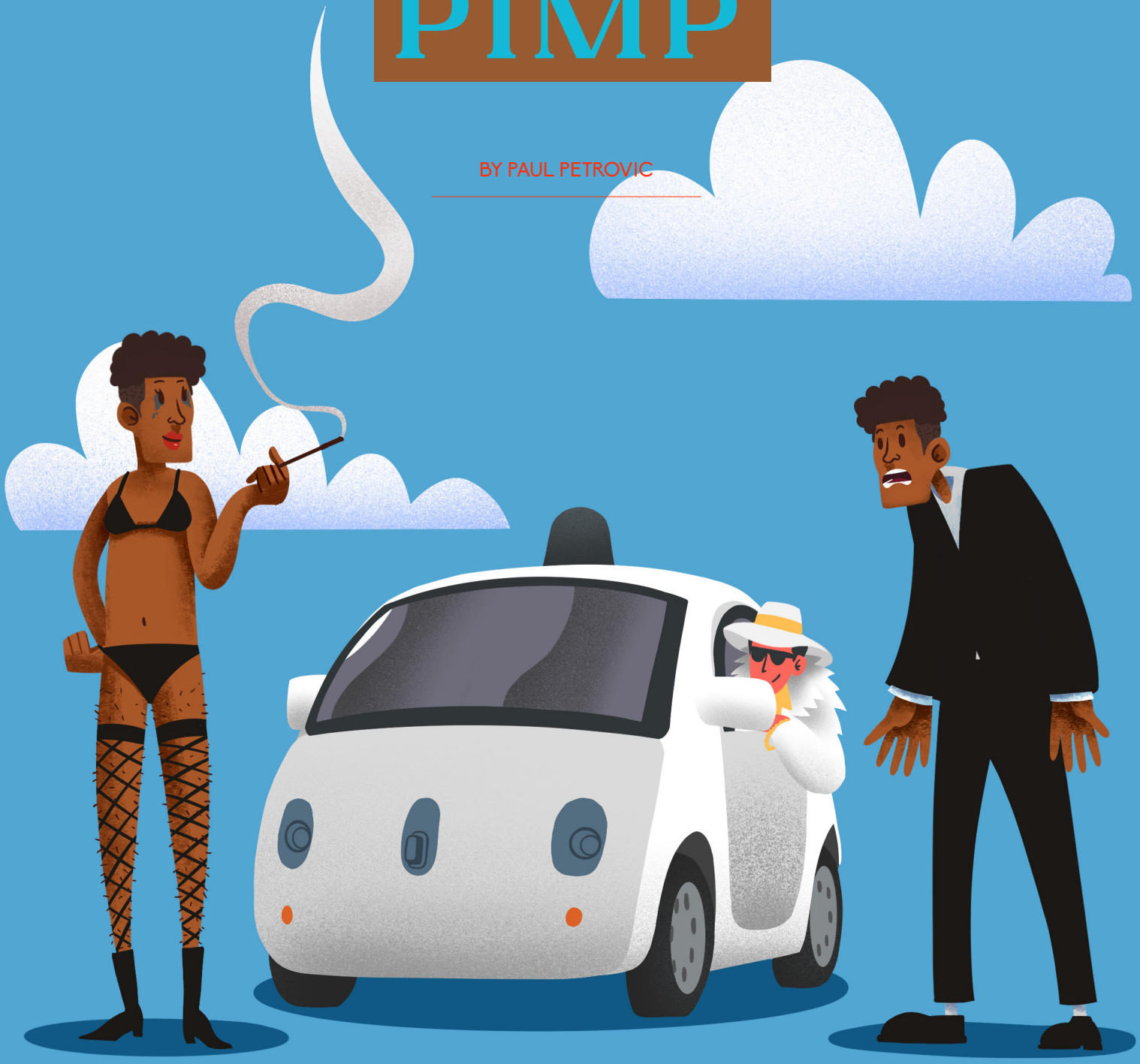
Or perhaps one where users have commercial control of their data and where people are invited to make valuable, truthful contributions to the Internet in exchange for small financial incentivizes. Whatever this reinvented Internet might look, it must finally value the people that provide the data driving the information economy.



CHAPTER 3

WE DON'T WANT A PIMP

BY PAUL PETROVIC



DAY ONE

As you walk home after a late night out, you see a shadowy figure in the distance standing seductively on a dimly lit street corner. At first you can only see the figure's silhouette and the red glare of a burning cigarette, but as you cross the street, you notice something that spawns goosebumps all over your body: the figure on the street corner looks exactly like you.

"Who are you?" you ask with a trembling

"Well, can't you see?" the figure responds calmly. "I am your digital twin. I am a copy of you, the result of all the data you've ever created online."

You want to protest against the absurdity of this response, but can't escape the profound feeling that comes with staring at a scantily-clad version of yourself. Not only does the figure look and sound like you, it even smokes the same brand of cigarettes as you. The only difference is your twin is dressed in fishnets and a tight black top.

"What….I don't understand. Why are you here, now, so late at night?" you say, and as you utter those words a self-driving Waymo car quietly approaches the corner. Once it stops, a shady-looking man pokes his head out the window and inquires about the costs of your digital twin's services.

"Oh, I don't cost a thing," says your digital twin passively. Then it walks towards the Waymo, opens the door, and looks back at you. With one last sad glare, your twin steps inside the car and drives off silently into the night.

Fade Out

DAY ONE

David Lynch takes a sip of his own signature coffee and spits it out all over the script. The brown stains on the script says enough: this visual analogy is disgustingly accurate for the surrealist film master. It also reads like a knock-off. No matter, we'll keep this screenplay dramatization of what would happen if you met your digital twin--if only for purpose making the topic of data exploitation a little more sexy.

Not that it really needs to be any sexier than it already is. The more you analyze the business model underpins the digital economy, the more identical it seems to the business model used by pimps in the underworld--lucrative, exploitative, and hidden from sight.

Once you realize this, you'll realize that, well, we're all getting pimped.

The proverbial pimp "earns" money by persuading vulnerable women to perform sex acts with customers and hand over the cash they receive from those acts. Typically these women are lured into prostitution by pimps with the promise of receiving housing, clothing, protection, and whatever else they might want from pimps. In exchange the prostitutes have sex with customers and typically give all the money they receive to the pimp.

This information isn't an assumption, but is rather based on a groundbreaking long-term study conducted by the Urban Institute, an independent social and economic policy think tank that investigated illegal prostituion in seven major US cities from Atlanta to San Diego. The study features interviews of 73 convicted pimps conducted between 2012 and 2013, who almost revealed that the first order of business in pimping is to collect all the money.

"These girls, they don't get no cut or anything, but they do get anything they want or need," one pimp said. "The reason you don't give them their own money, they would be like 'I can just keep this."

Deprivation

Deprivation is the name of the game when it comes to pimping, with many pimps saying they use it to create dependency and motivate their employees by either compensating them with material goods or denying them these rewards. Prostitutes depend on their pimps for their livelihood, for the services they need to get through the day.

If we look at the way tech giants do business, we see that while they are not involved in the crude

prostitution of vulnerable women, their methods of creating dependency aren't so different.

Entire communication and commerce structures have moved onto the digital platforms of just a few companies. We shouldn't pretend what these platforms offer isn't highly convenient, but the more our lives become mediated by digital technologies, the more our lives depend on them. Can a restaurant survive without being featured on Google maps? Can a graduate get a job without an email? Can a software developer make money without their applications on Google or Apple's app stores?

In the realms of social media, digital dependance plays upon a perceived need for it. The most popular apps are designed with addictive qualities associated with the immediate feedback. Research out of Harvard found that when you get a social media notification, your brain sends a chemical messenger called dopamine along a reward pathway, which makes you feel good. Dopamine is associated with food, exercise, love, sex, gambling, drugs. When checking for notifications is as easy as pulling out your phone, the dopamine-triggering behavior becomes a habit.

Last year, Facebook made a $55.8 billion. 97% of that money was earned by harvesting and "selling" the data users create. Despite a year in which Facebook was marred by data privacy scandals that publicly revealed the site's intrusive surveillance practices, Facebook's user count and revenue continued to grow to new record-highs... as if users can't live without the site.

Exploitation

To exploit someone is to take unfair advantage of them. It is to use another person's vulnerability for one's own benefit. Of course, benefiting from another's vulnerability is not always morally wrong—we do not condemn a chess player for exploiting ~~a weakness in his~~ opponent's defense, for instance. But some forms of advantage-taking do seem to be clearly wrong.

We can understand exploitation as being either transactional or structural. When it is transactional, the unfairness is a property of a discrete transaction between two or more individuals. A pharmaceutical research firm that tests drugs on poor subjects in the developing world would fall into this category.

But when exploitation is structural, it means that the **"rules of the game"** within an institution or system unfairly benefit one group of people to the detriment of another. The more one group wins, the more the other group loses. Some contemporary feminists argue that the institution of traditional marriage is an example of structural exploitation because it preys upon and reinforces harmful forms of inequality between men and women, thus preventing the progress of women over time.

Then there's Karl Marx, of course, who argued that the political and economic institutions of capitalism are also a form of structural exploitation. The fact that massive wealth disparity between black and white people in America continues to grow, or that there has never been a female US president, is a testament to Marx's argument.

While transactional exploitation is a problem, structural exploitation is a whole different monster. When perpetuated over time, it becomes a weapon of oppression that inhibits disadvantaged groups from self-development.

To loosen its grips and reverse its effects requires gargantuan strength, but before any strength can even be summoned, we must be able to recognize that the playing field is, in fact, uneven. This last bit is the hardest part—especially in the age of digital economy.

Exploitation has always been around, but artificial intelligence and machine learning has mutated it beyond recognition. These days we actually like the very things that are exploiting us --we like Google, Facebook, and all the online platforms that make our lives more "social" and convenient.

However, it's not just how these platforms harvest our data to become astronomically rich that drives oppression. Rather, what drives oppression are the complex algorithms used to churn our raw data into predictions about our behavior, which are sold off to those who want to influence and alter our futures.

Surveillance Capitalism

When it comes to dissecting the devious behavior of data-harvesting tech companies, no one has ever done it like Harvard Professor Shoshana Zuboff. In her seminal socioeconomic work, The Age of Surveillance Capitalism, Zuboff allows us to see how seemingly isolated news items about privacy overreaches and data blunders are actually brief glimpses into a global system designed to violate you as a revenue stream.

She explains in haunting detail how everything we use online, from Gmail to Instagram to the Health app, is designed to follow us at nearly every instant of every hour of every day to suck us dry of data. That raw data isn't just sold off to advertisers. If only it was.

What actually happens is all that data is dumped into algorithms and neural networks that analyze patterns in your behavior along with the behavior of everyone else, and matches it with the personal, demographic information they have on everyone. With this information, the algorithms then turn that data into predictions about your future.

In the past, predictive algorithms commonly relied on standard statistical regression practices (finding correlations and inferring on their relationships), but better methods have been created that mirror the actual mechanisms humans use to make decisions. For instance, algorithms will make predictions by asking sets of yes-or-no questions to your digital twin, which will answer based on the data that the twin is composed of.

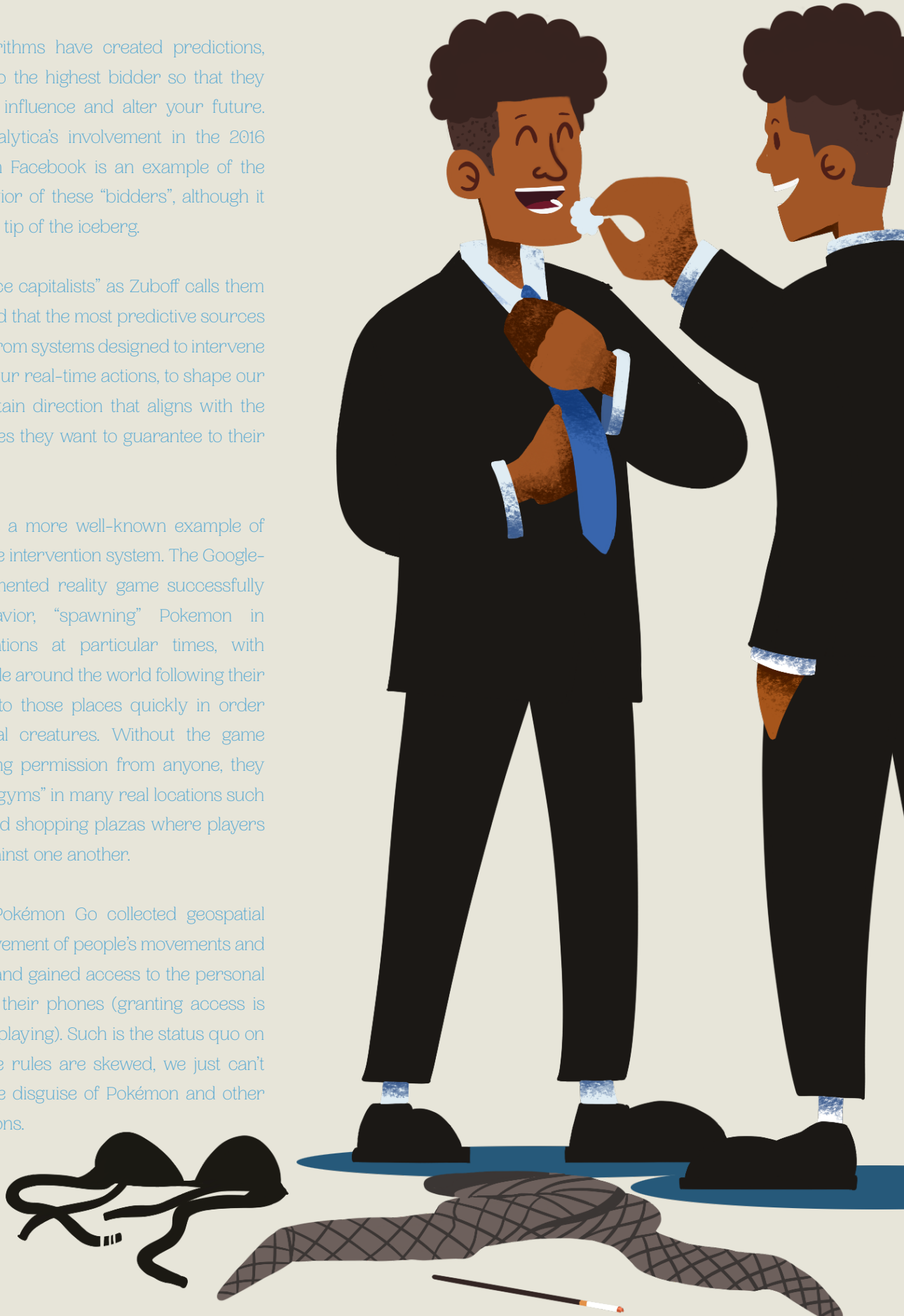
Still, we cannot pretend to truly understand the nature of these algorithms. Algorithms were once hand-designed by humans; now they're often created by artificial intelligence and neural networks that make predictions based on unfathomable, seemingly random correlations.

Once the algorithms have created predictions, they are sold to the highest bidder so that they can attempt to influence and alter your future. Cambridge Analytica's involvement in the 2016 US elections on Facebook is an example of the intrusive behavior of these "bidders", although it really is just the tip of the iceberg.

The "surveillance capitalists" as Zuboff calls them have discovered that the most predictive sources of data comes from systems designed to intervene in our lives, in our real-time actions, to shape our action in a certain direction that aligns with the kind of outcomes they want to guarantee to their customers.

Pokémon Go is a more well-known example of such a real-time intervention system. The Google-incubated augmented reality game successfully modified behavior, "spawning" Pokemon in particular locations at particular times, with millions of people around the world following their phones to get to those places quickly in order to catch virtual creatures. Without the game designers asking permission from anyone, they placed virtual "gyms" in many real locations such as churches and shopping plazas where players could "duel" against one another.

All the while Pokémon Go collected geospatial data on the movement of people's movements and surroundings, and gained access to the personal information on their phones (granting access is mandatory for playing). Such is the status quo on the Internet: the rules are skewed, we just can't see it under the disguise of Pokémon and other clever distractions.



DAY ONE

Human Autonomy

To make predictions, the algorithms need input. That input has long been the data we create through our interactions with digital technologies, but surveillance capitalists are discovering the limits this predictive value this data can have since it relies on our own input, which can vary greatly in quality between people. In search of richer feed for the hungry algorithms, new methods of generating input are being deployed, methods that aren't so different from those used in China's high-tech surveillance society.

In London, the public have become more vocal about their anger with the CCTV cameras that are literally everywhere (other than the bathroom), which the government is using to capture and store the faces of everybody through facial recognition technology. What the public in general hasn't been paying attention to is that the private sphere is fighting for the right to the same, and while they do not yet have that right in London, they do in the US.

Why does a tech company want your face?

To start with, it's an important data point to know where you are, where you are going, and what you're doing. But there are even deeper reasons.

The face has many muscles, and these muscles can combine into hundreds of different types of gestures. By computing those gestures using facial recognition analysis, tech companies can predict what emotions you are feeling. Once they know what you are feeling, that becomes one of the most powerful predictions of your behavior.

Your online photos may not reveal all too much about your true emotions, but images of your face as you go about your day are far more revealing. And those true emotions are worth a lot more than you can imagine.

DAY ONE

“AT ITS CORE, SURVEILLANCE CAPITALISM IS PARASITIC AND SELF-REFERENTIAL,” ZUBOFF WRITES. “IT REVIVES KARL MARX’S OLD IMAGE OF CAPITALISM AS A VAMPIRE THAT FEEDS ON LABOR, BUT WITH AN UNEXPECTED TURN. INSTEAD OF LABOR, SURVEILLANCE CAPITALISM FEEDS ON EVERY ASPECT OF EVERY HUMAN’S EXPERIENCE”


Rembrandt f^t 1632

What do we make of all this?

That our capitalistic society has found a way to monetize every aspect of the human experience may not be all too surprising, but it is extremely worrisome how we sleepwalked into a society where surveillance and control have become the ultimate financial incentives. And while it may be tempting to dismiss the possibility of our own autonomy being robbed by subtle technological forces, we must not be so naive.

In 2017, an internal report produced by Facebook executives for one of Australia's top banks was obtained by a newspaper known as The Australian. In the report, Facebook explained that it has detailed information on the mood shifts of over 6.5 million young people in Australia and New Zealand. The executives also explained that Facebook has the capacity to monitor posts and photos in real time to determine when young people feel "stressed", "nervous", or "need a confidence boost", allowing advertisers to target young people when they're most emotionally susceptible to click on them.

After Facebook came out and claimed the report was misleading, an ex-Facebook executive by the name of Antonio Garcia-Martinez told the public not to trust Facebook's statement. Garcia-Martinez helped create the first versions of targeted-ads, and he was certain Facebook could target people with ads based on their emotional state.

"My reaction?" asked Garcia-Martinez in a story he published about the leaked report on The Guardian. "So what. Sometimes data behaves unethically.... why should those examples of targeting be viewed as any less ethical than, say, ads selling $100 Lululemon yoga pants targeting thirtysomething women in affluent postal codes like San Francisco's Marina district?"

Here we get an interesting, rare glimpse into the mind of a former Facebook executive, a man who shrugs his shoulders at the ethical consequences of targeting ads at depressed teens. Whether his outlook reflects the views of Mark Zuckerburg and his team, we cannot say for certain. But then again that's the whole problem. Not targeted ads per se, but the fact that digital technology has become a means of separating all of us in society into two groups: the watchers (invisible, unknown and unaccountable) and the watched.

This has profound consequences for democracy. Asymmetry of knowledge translates into asymmetries of power. But whereas most democratic societies have at least some degree of oversight of state surveillance, we currently have almost no regulatory oversight of its privatised counterparts. To operate on the Internet in its current iteration, one must play by the "rules of the game" and live with surveillance--knowing all too well that data is being extracted with the goal of behavior modification but not knowing exactly how that's being done.

The spirit of colonialism was free to seep into the early, lawless Internet, leading a few centralized powers to unilaterally claim the right to our data, and in many ways, our future. But we can imagine a different future--one where we have the agency to use technology under our own circumstances. As Zuboff puts it, "while it is impossible to imagine surveillance capitalism without the digital, it is easy to imagine the digital without surveillance capitalism."

DAY ONE

Surveillance capitalism, she reminds us, is not technology. Digital technology can take many forms depending upon the social and economic logics that bring them to life. The only reason digital technology seems so dubious now is that it serves as a puppet for the same social and economic logic pimps use in the underworld.

A pimp lures a young woman into prositution through promises of protection, housing, clothing and whatever they might need or desire. A tech giant like Facebook lures us in through promises of privacy, social connectivity, online tools, games and whatever else keeps us entertained. For pimps, the exchange is that a pimp receives all the money the prostitutes earn from sex acts. For Facebook, the exchange is that Zuckerburg gets near-unlimited access to your data, which it uses to make billions.

Both undermine you as a source of wealth and actively try to control your autonomy. Both are forms of structural exploitation, where only one person wins to the detriment of another.

The World Wide Web is still relatively young, so perhaps it's not too strange that we were seduced by the allure of new digital technologies and the services provided by tech companies without considering the trade-offs we were making. But with time the true nature of the digital economy has revealed itself, and we must now be wise enough to say:

WE DON'T WANT A PIMP

Blueprints for more equitable, decentralized online systems already exist that operate by a social and economic logic based upon data protection, empowerment, and greater personal autonomy. These blueprints still belong in the realm of fringe ideas, but as more and more people see for themselves that they're being pimped, the more we will be forced to consider new iterations of the digital economy more seriously.

INTERLUDE.

“CONSIDER THE FOLLOWING PASSAGES FROM JARON LANIER’S WHO OWNS THE FUTURE”

BY JARON LANIER

“It’s magic that you can upload a phrase in Spanish into the cloud services of companies like Google or Microsoft, and a workable, if imperfect, translation to English is returned. It’s as if there’s a polyglot artificial intelligence residing up there in the great cloud server farms.

But that is not how cloud services work. Instead, a multitude of example of translations by real human translators are gathered over the Internet. These are correlated with the example you send for translation. It will almost always turn out that multiple previous translations had to contend with similar passages, so a collage of those previous translations will yield a usable result.

A giant act of statistics is made practically free because of Moore’s Law, but at core the act translation is based on the real work of people.

Alas, the human translators are anonymous and off the books. The act of cloud-based translation shrinks the economy by pretending the translators who provided the examples don’t exist. With each so-called automatic translation, the humans who were the source of the data are inched away from the world of compensation and employment.

At the end of the day, even the magic of machine translation is like Facebook, a way of taking free contributions from people and regurgitating them as bait for advertisers or others who hope to take advantage of being close to a top server.

In the world of digital dignity, each individual will be the commercial owner of any data that can be measured from that person’s state or behavior. Treating information as a mask behind which real people are invariably hiding means that digital data will be treated as being consistently valuable, rather than inconsistently valuable.

DAY ONE

“I have had many friends who worked as quants, and have also gotten to know a few very succesful financiers at the helms of some of the more hermetic ventures. During the late 1990s and early 2000s, I was able to visit various power spots, and had man long conversations about the statistics and the architectures.”

“Usuall there would be an unmarked technology center in one of the states surrounding New York City, or perhaps father afield. There, a drows gaggle of mathematicians and computer scientists, often recently graduated from MIT or Stanford, would stare at screens, sipping espressos.”

“The schemes were remarkly similar to silicon valley designs. A few of them took as input everything they possibly could scrape from the Internet as well as other, proprietary networks. As in Google’s data centers, stupendous correlative algortihms would curnch on the whole ‘net’s daata overnight, looking for correlations. Maybe a sudden increase in comments about moosquito bites would cause an automatic, instant investment in a company that sold lotions. Actually, That’s an artificially sensible example. The real examples made no sense to humans. But money was made, and fairly reliably.”

PG (67) JARON LANIER
“WHO OWNS THE FUTURE”


DAY ONE
INVEST! IT'S ALL THE BUZZ!
BUZZ OFF
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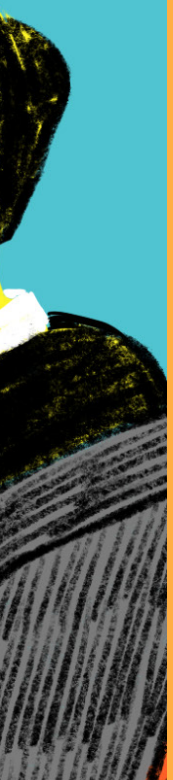


CHAPTER 4

SELF-SOVEREIGN IDENTITY

BY LILLY G. LILLARD

"BEFORE THE INTERNET WAS EVER MADE, BOOKING A TRAVEL WAS A REAL PAIN IN THE ASS."

"OK, BOOMER."

DAY ONE

But seriously, the process of booking a vacation in the pre-Internet era was a job in itself. We paid travel agents to do it for us because no one wanted to go through the hassle of booking flights, calling foreign hotels, and arranging a rental car.

Nowadays you click a few buttons and find yourself on a CO2-spewing flight in no time.

The advent of the Internet and free digital technologies has undeniably made it easier to maneuver through life's daily tasks, but as the Internet has aged, we find ourselves in a rather precarious relationship with these technologies: for each online service we want to use, we must verify ourselves by submitting sensitive personal information to businesses that have proven incapable of safeguarding that information.

From retail to banking to medical care, nearly every industry has shifted its services online. Typically, when you sign up for these online services, you must create a custom identity for the specific application; this is known as centralized identity. It's centralized because all your data is stored on a single database belonging to that digital service, but really it leads to a fragmented identity as your personal data is spread to a wide array of sites across the web in varying ways.

As a result of centralized identity, you sign up for new services and create new username and password combinations all the time. For many services, such as online banking, you are required to provide highly sensitive information such as your address and ID number to create an account.

Some centralized services like Google and Facebook have tried to overcome the need for creating new accounts for each application you use through federated ID management systems. If

you've ever clicked a button to login to an application using credentials from other applications like Google, LinkedIn, or Facebook, then you've already made use of federated identity.

A federated single sign-in account gives you the ability to hop from one application to the other with a single account. While this is certainly convenient and something we should strive towards in future iterations of the Internet, we should not put our faith in federated ID systems managed by social media giants.

To understand why, imagine the Internet as the one-way mirror you often see in films where interrogations are taking place. On the mirrored side are users surfing the web, clicking on ads, viewing video content and signing into accounts. This is the consumer interface, which is all a regular Internet user can see.

Sitting behind the consumer interface (on the transparent side of the mirror) are website developers, data analysts, algorithms, and most importantly, the company executives who own these digital services. Not only do they receive the person information users submit, but they also harvest the trail of data users leave behind to uncover how users maneuver through a website and what their online behavioral patterns are.

The problem with federated ID is that you, as a user, unknowingly allow the centralized third party (Google, LinkedIn, Facebook, etc.) to share your information with the application you're logged into and vice-versa.

So, let's say you sign into Tinder in search of a hookup true love, Tinder receives instant access to your photos and personal data, age, sex, preferences, and anything else on your Facebook. Combine this data with the information they compile on your romantic life, and Tinder has a goldmine of data that corporations selling particular goods or services would kill to have. Tinder, if it so desires, can sell that data to whatever business it chooses.

This is the one-way mirror of the Internet in action. While you might suspect Facebook and Tinder are behind that mirror, the reality is that there's an endless number of unknown companies watching your every move--and you have no way of seeing who those companies are.

The 'New Oil'

Back in 2017, The Economist published a story that claimed the world's most valuable resource is no longer oil, but data. If this modern mantra is

true (it seems so), then we have a bit of a problem: we have no access to our data.

There's a key difference between these two economic fuels. Whereas one is a liquid commodity that powers your local commuter bus, the other is made up of abstract bits of digital information that, when configured cleverly through machine-learning algorithms, can be of extreme value to those who wield the data as it provides deep insight into who you are as a person.

That user data is so valuable wouldn't be such a problem if that data was spread across the billions of websites that exist online, but that's not the case. Only a select few websites have wide usage.

According to Lifewire, the most popular (non-Chinese) sites in 2019 based on their unique visitors and total traffic are Google, YouTube (owned by Google), Facebook, and Amazon. These popular websites have emerged as robust centralized platforms where people can communicate, publish, and discover content--and buy stuff.

With the vast majority of Internet users flocking to them, these sites have been able to concentrate wealth in a way that proves data really is the 'new oil'. Federated ID only exacerbates this concentration of wealth and information as it allows Facebook and Google to gain access to even more data that users create while logged in to different applications.

Imagine the scope of information knows about a young adult who logs into Tinder, Spotify, and Facebook via one account. It's almost comical. Not only does Facebook know your email or where you live, but it also knows exactly what music you listen to and who you're hooking up with.

That Facebook has such detailed information on millions of people is turning the social network into a super surveillance power with a profound view into the lives of individuals and an incredible meta-perspective on society that the CIA would do dirty, dirty things to have. If federated ID is only supporting Google and Facebook's monopolization of online data, then this cannot be the solution to the online identity management.

Hackers

Even though federated ID solves the issue of having endless combinations of usernames and passwords, it doesn't provide an answer to the most worrisome security issues that comes with online identity management. Let us spell out that issue clearly: in order to use online services, you are forced to submit personal information to centralized databases that are highly susceptible to hacking.

Nowadays companies store all their data on the servers of centralized cloud computing providers, and the biggest providers happen to be the same tech giants we keep talking about: Amazon, Google, IBM, and Microsoft. Despite their gigantic computing power, they have yet to prove successful in safeguarding our data.

Over the years we have seen countless examples of privacy breaches that have compromised the identities of hundreds of millions of people. In fact, 2016 alone saw 10% of Americans experience some form of identity theft. But of all the data breaches the Internet has witnessed in recent years, none have displayed just how vulnerable these centralized databases are than the Capital One data breach that happened on March 22, 2019.

On that fateful day in March, a hacker named Paige Thompson broke into a Capital One Bank server and gained access to more than 100 million Capital One customers' accounts and credit card applications. On top of that, Thompson stole 140,000 Social Security numbers, 80,000 bank account numbers, and an undisclosed number of people's names, addresses, credit scores, balances, and other information, according to the bank and the US Department of Justice.

Thompson would eventually get caught, which is good for us because she could reveal how exactly she pulled off this heist. Apparently, Thompson had previously worked as a tech company software engineer for Amazon (AMZN) Web Services, the cloud hosting company that Capital One was using. Because of her familiarity with the Amazon Web Services, Thompson was able to gain access by exploiting a misconfigured web application firewall. It took just one person to compromise the data of over 100 million people. Obviously we need a better system for managing identity.

DAY ONE

Self-Sovereign Identity

On the outskirts of our cyber society exists an idea called Self-Sovereign Identity (SSI). Though it is a rather young idea, it has serious potential to be the antidote for today's untrustworthy identity management systems.

SSI seeks to give individuals sole ownership of their digital identities at a time where identity is such a central part of society. Beyond that, SSI promises to protect individuals from the ever-increasing control of those in power, who may not have the best interests of the individual at heart.

You probably don't think twice about handing a bartender your ID to prove your age, but if you stop and think about it, handing over your ID means providing a complete stranger with a lot more information than they need to know to prove your age — full name, address, driver's license number, etc. — and this happens constantly at a point in time where personal information has become the primary means for accessing your valuables.

What Self-sovereign identity offers is a new way of thinking about digital identity that puts the user at the center of the authentication process.

Think about it like this; instead of going to the DMV and getting a license with all of your personal information on it, imagine if you could register your identity with the DMV and then have the ability to create a QR code on your phone that says "I'm over 21" the bartender or door person can then scan without seeing the rest of your personal information.

This idea translates online: in order to use a service, you would only provide the exact information that is needed to verify you without forfeiting access to the rest of your data. And all that information would be linked to one verified account that belongs to you and only you.

Although storing all your personal data on one account may sound like an invite for hackers to take all your data in one go, SSI protects you from this happening by storing all your data on a blockchain. A blockchain is basically an immutable record of events that can't be messed with because copies of it are stored on millions of computers around the world rather than a central database. Those copies are cryptographically sealed.

For a hacker to gain access to those copies or change the data within them,

they would basically need to hack a majority of those storage computers simultaneously and replace the stolen information with something else. This would require a level of quantum computing power that only exists in theory.

We're guilty of oversimplifying the vast complexity of blockchain technology, but the point is blockchain is the mechanism which makes SSI secure and distinguishes it from other forms of identity management. Blockchain is the mechanism that takes your personal data out of the hands of companies and gives it back to you. Blockchain is what makes your digital existence independent of any organization, and prevents anyone from taking your identity away.

Blockchain is the technological foundation of Bitcoin. The fact that Bitcoin itself has never been hacked says enough about the security power of blockchain.

Claims

In 2016, Christopher Allen wrote a piece called "The Path to Self-Sovereign Identity". It is basically the Old Testament for SSI, laying out the fundamental principles that must define SSI as it develops. One of the most fascinating aspects of SSI described by Allen is the right to make claims.

Today, your identity is administered by a government that inserts important details such as gender on your behalf. According to Allen, SSI would allow users to make claims about the information that identifies them, creating a more detailed ID that truly individualizes you. A user could decide their gender based on what they truly identify with, but they would also be able to include facts about personal capability, which could then be verified by other users. It could also contain information about the user asserted by other persons or groups. For instance, a university could make a claim that the user attended their school. A pharmacy could verify that a patient does require a certain prescription.

The idea that people other than you can make claims that become a part of your identity might sound frightening, but as Allen writes, the user will always remain the ultimate authority of their identity. They should always be able to refer to those claims, update them, or even hide them if they prefer. Beyond that, those claims are not central to the identity itself, serving rather as a

SSI also means that you don't have to give up personal information each time you want to access new goods and services online. It gives you the ease of the federated ID systems that Facebook and Google offer, but without forfeiting your data to all the services you use.

Decentralize to recentralize

There is a company named Sovrin that is attempting to realize the vision of SSI. The Sovrin Network, as it's called, aims to be the new standard for digital identity. Supporters of SSI seem to like them. We do too, but we think their vision of SSI could be a whole lot bolder than just a way to verify your online identity. Allow us to get a little laissez faire and spew out some ideas.

If data is the 'new oil', imagine SSI would allow you to extract the data you create online and store it. Like a whirlpool, the data you create gets funneled to your SSI so that you can sell to a party interested in having that data--or keep it for yourself. That way, regular Internet users could finally have access to the resource that fuels the digital economy.

Gaining access to your medical data is near impossible. This is highly unfortunate for a number of reasons. First off, if you have a specific medical condition and want to move abroad, gaining control your own medical data and bringing it with you abroad is nearly impossible now. Secondly, artificial intelligence could benefit highly from having more medical data to improve their systems. Imagine if for both cases, SSI would allow you to gain control and store your own medical data. You could use it to inform your new doctors more accurately, or sell it to medical groups that deploy AI in order to better their systems. A win for everyone.

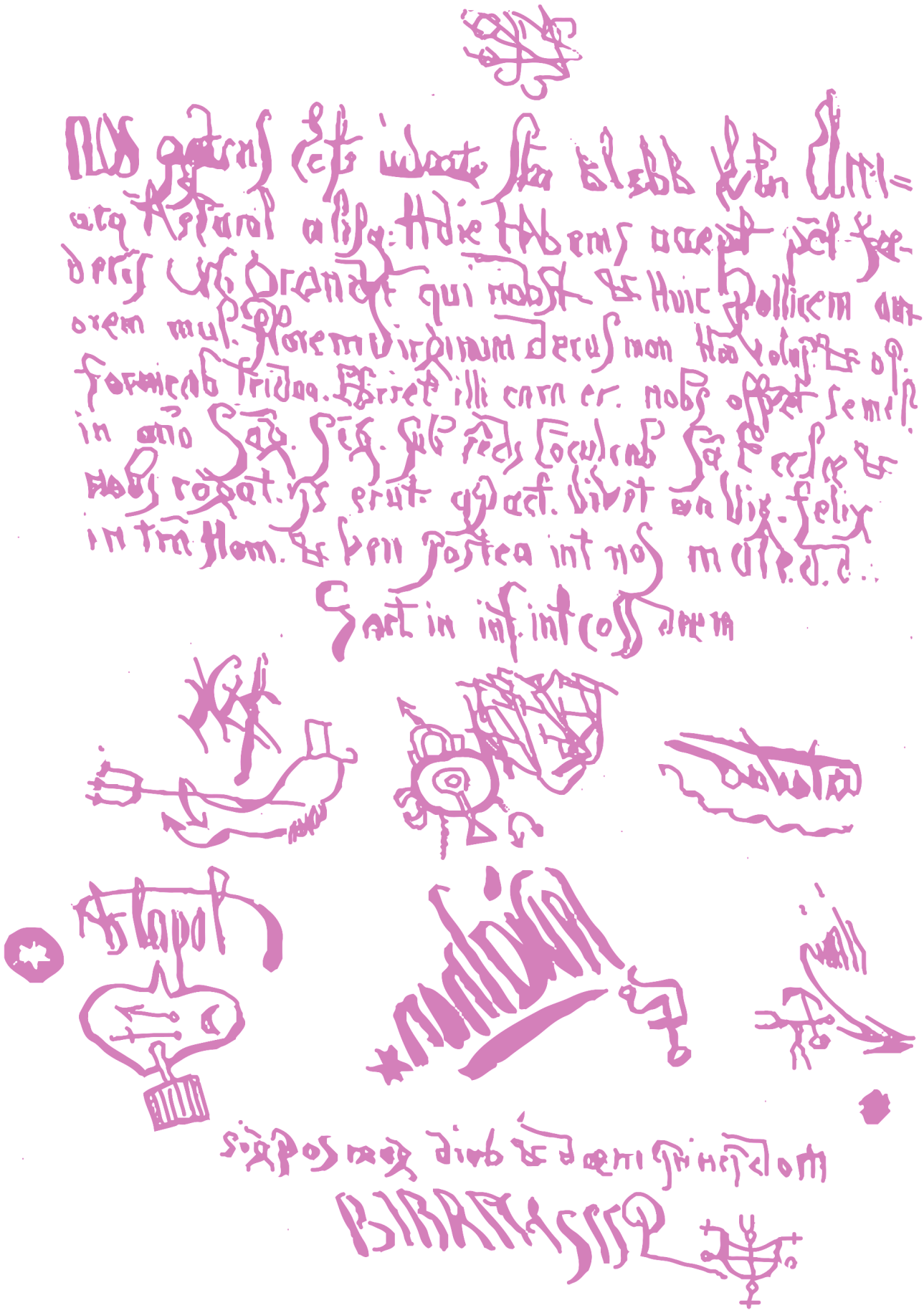
What about this: imagine the web was redesigned in the way Jaron Lanier, the father of virtual reality, proposes. It is an alternative structure to the web based on Ted Nelson's Project Xanadu in which there is a two-way linking system that would point to the source of any piece of information, creating an economy of micropayments that compensates people for original material they post to the web.

Those micropayments could be done with blockchain, with the money being stored on a digital wallet within one's SSI. By doing this you would incentivize an Internet that isn't just based on grabbing user attention, but rather, attempts to motivate people to contribute valuable, verifiable information online.

What if there was a general app where people could offer services or tools online? Let's say you need someone to wash your self-driving car. You could go on the app and see if people are offering such a service. Then, if you find that person, you could see via SSI whether or not they are trustworthy and decide to do business with them. Once they wash the car, you can send them money via the blockchain, which, once again, is stored in a digital wallet within SSI.

Is any of this is possible? Who cares. The point is that SSI, in some shape or form, could be evolved into SSE: Self-sovereign entrepreneurship. It could allow you to sell data you harvest, make cash transactions between two people simpler, and move past intermediary organizations such as banks. A strong SSI could be the catalyst for an Internet that actually instills trust. It could provide a way for people to make money when automation starts replacing humans at their jobs.

Are we daydreaming? Perhaps. Or maybe we're seeing what the future needs: real technological solutions for a technological world--and not just another cryptocurrency.



AN INTERVIEW
WITH

OLLI KANGAS

THE IDEA THAT TECHNOLOGY WILL IMPROVE TO THE POINT THAT WORKERS WILL BE ABLE TO STOP DOING THE MOST DANGEROUS, BORING, AND REPETITIVE JOBS SHOULD EXCITE US. BUT IF AMERICANS HAVE NO SOURCE OF INCOME TO PAY FOR THEIR BASIC NEEDS, THEN THE FUTURE COULD BE VERY DARK. ANDREW YANG RAN FOR PRESIDENT IN 2020 ON A CAMPAIGN BUILT UPON THIS NARRATIVE, WHICH IS WHY HE WANTS TO IMPLEMENT WHAT HE CALLS A FREEDOM DIVIDEND, A PROGRAM THAT PROVIDES A BASIC INCOME OF $1,000 A MONTH FOR ALL AMERICANS--NO STRINGS ATTACHED. HOW SUCH A PROGRAM WOULD WORK ON A MASS-SCALE, WE HAVE NO WAY OF KNOWING YET. BUT WE CAN TAKE A FEW CLUES FROM BASIC INCOME EXPERIMENTS THAT HAVE ALREADY TAKEN PLACE AROUND THE WORLD.

ONE SUCH EXPERIMENT HAPPENED IN FINLAND FROM JANUARY 2017 TO DECEMBER 2018. IN THE EXPERIMENT, 2,000 UNEMPLOYED FINS RECEIVED A MONTHLY FLAT PAYMENT OF €560 ($634), WITH THE AIM OF PROVIDING A GUARANTEED SAFETY NET WHILE PEOPLE FIND JOBS.

THE EXPERIMENT WAS DESIGNED AND POLITICALLY IMPLEMENTED BY PROFESSOR OLLI KANGAS, THE HEAD OF THE RESEARCH DEPARTMENT AT THE SOCIAL INSURANCE INSTITUTION OF FINLAND. TAKING A BREAK FROM HIS FELLOWSHIP AT THE UNIVERSITY OF BATH, KANGAS STOPPED BY AMSTERDAM TO GIVE US AN INSIDER'S LOOK INTO ONE OF THE MOST COMPREHENSIVE BASIC INCOME EXPERIMENTS TO DATE.

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Ivar: With Finland being a welfare state with ample access to benefits such as free education and healthcare, you might not expect Finland to be a country that would implement a basic income on top of that. Why is basic income something that Finland would want to implement?

Olli: The good thing about Finland is that we have many social security programs that cover almost all risks for people, but the bad thing is that they exist in silos. There are programs for these kinds of people and programs for those kinds of people. And in each program they have special treatment for people. But if a certain treatment doesn't fulfill the needs of a person, then that person is not allowed to get another treatment from a different program.

In many cases these days we have lots of people who are neither employees nor self-employed. For employees we have radical social security in Finland and OK social security for those who are self-employed. But there are lots of people who are neither of these. They might be freelancers or they work at a startup. These people aren't recognized by our social programs and they often find themselves having problems.

Ivar: So when I hear this I think about more conservative right wing ideas in which UBI is seen as a way to eliminate other social programs—giving people agency to spend the money they receive in a way that suits them. Is this something your research backs up? Could UBI serve as a way to rid of complicated social security programs?

Olli: Yeah, that's the idea. We have some 40 basic security benefits—rehabilitation benefit, parental benefit, unemployment benefit, etc.—and the amount that you get from each benefit is virtually the same. Going back to your question, libertarians in the conservative party are very much in favor of basic income, saying that basic income would be money for freedom so that people would be liberated from the nasty nanny state and they could plan their own life projects and take responsibility of their own life. This is your money, take it and run.

On the other hand we have left wing parties who are in favor of basic income, saying that basic income is a device for freedom as it gives people the possibility to decide whether or not they want to take a certain job—since people are often forced to take a job in order to receive any benefits at all.

Basic income wouldn't eliminate all benefits unless the benefit was so high that it could compensate for everything

WITH OLLI KANGAS

else. But that benefit would be too costly and there would be political obstacles in the way as well.

Ivar: I can imagine at a political level that convincing politicians to experiment with basic income would not be so straight forward. What were some of the critiques leveled by opponents against basic income?

Olli: There were lots of critiques (olli smiles.) One primary criticism was that it is totally a waste of money to experiment with such a rubbish idea—it was a principal argument. Another critique was that if you have a basic income experiment it would improve the image of the country so much that refugees from all of the world will think 'oh they're paying basic income, let's go there." That was the criticism given by the True Fins Party.

Another important strain of criticism was that if you give money for free—money from heaven—people are going to become lazier and will not want to work. Against this argument I have asked people if they have properly read that part in the Bible where the children of Israel get money from heaven, because if you have, you know that they became activated and began walking immediately {through the desert} to the promised land. So money from heaven can be good in some cases.

Ivar: You often read criticisms that people won't be motivated to work if they receive free money, but from the preliminary results of your study—which only featured unemployed people—we saw that it doesn't particularly change their motivation.

Olli: Well if we look at the unemployment rates of people who received basic income, they became employed a little bit more, but the difference was not significant. Then the opponents of basic income immediately said 'there you see, basic income is rubbish because it doesn't help employment.' But on the other hand we can say that the present system is rubbish because it doesn't promote employment. It's not any better than a basic income system, it is not motivating people.

Even though basic income didn't lead to a significant difference in terms of motivation, we did see significant improvements in terms of quality of life. The people in our surveys said they feel better, they feel happier, they have more control of their lives, and have more trust and confidence in their futures.

What was also interesting was that even though the people in the control group and the people in the experiment group had precisely the same level of income, the people in the experiment felt they could rely much more on their basic income to

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make decisions and explore possibilities. They knew they would get the money at the beginning of every month and they knew they could rely on that. They had confidence in the system.

Whereas the people in the control group had to go through the typical unemployment bureaucracy, they had to explain their circumstances and couldn't be 100% sure that the money will be there. And also there's a big difference in the encounters with bureaucracy between the two groups. The people in the basic income group said they were met with less bureaucracy than the people in the control group, which felt important to them.

Ivar: With regards to the money they received, do you actually know what they were spending it on?

Olli: Actually, no. We didn't ask them. Maybe that question will be asked in the face-to-face in-depth interviews that we are now carrying out, but at the moment, I don't know. We were more focused on whether or not the basic income would have an effect on employment, and only later did we expand it to include well-being

Ivar: I saw a quote from you when the experiment concluded in which you said that 'this might pave the way to other experiments, such as experimenting with a negative income tax. Can you explain the idea of a negative income tax?

Olli: The main difference between basic income and negative income tax is that basic income is given to everybody—even to high income earners—whereas people with a high income will not benefit from a negative income tax. A negative tax means money is paid to low-income people from the taxation system rather than the either way around.

Ivar: So it's a system built to help people with a low-income reach a basic standard of living.

Olli: Yes. It's income-tested, and therefore, I think such a system might be easier to sell to the social democrats and conservatives opposing basic income. Politically, it's more favored.

Ivar: Obviously implementing a basic income experiment in Finland will look very different to an experiment in the Netherlands or the US, but do you think your results give us any indication of how a basic income program would work in somewhere like the US?

WITH OLLI KANGAS

Olli: That's difficult. Every single country is unique in the sense that we all have different legislation and different programs that basic income would replace. In countries like India or Kenya, I think it's easier to have an experiment because basic income is everything. Basic income is pension security, basic income is unemployment benefit, basic income is housing benefit, etc. It can replace the laborious, complex social security system.

What made our experiment unique is that it was obligatory. We randomly selected 2,000 people out of the unemployment register and they were obliged by law to receive the money. This way we could avoid selection bias and because voluntary experiments often see people entering and exiting experiments as they like. It meant that we had to pass very specific, transparent legislation to make this work. In the experiment in Stockton, California, it's voluntary and works very differently.

Ivar: In the US, I often hear critics say that basic income fails to instill a sense of self-worth—that by giving somebody free money, they feel as if they're a part of a lower class or that it's a critique of their own social standing. Now that I know that the people in your experiment were obliged to participate, I'm curious to know how those participants felt about getting that money. Were there any negative consequences regarding their perception of themselves when receiving money from the state?

Olli: We asked our participants about their self-esteem. We asked if they feel they have some value as a person, if they feel they have some impact in society or impact on their own future. And what we saw was that the people in the treatment group had much stronger feelings of self-worth.

Why? Because with the money, people felt they could make more decisions for themselves. They didn't need to go through bureaucratic processes to show the government that they needed the money. With basic income, the government is basically saying 'here's your money, go and make your own decisions.' This is powerful. It tells people that the government recognizes their needs as legitimate. They feel they're being treated with more dignity, which helps them feel more valued.

I do understand that it might be the other way around in the US. Unlike Finland, people in America might think that if you get public money, you're a loser. Whereas in Finland, we think everyone can be a loser. We think we should have a safety net to help everyone.

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Ivar: It seems a mindset shift is needed for UBI to function in the US.

Olli: Very often when I travel in the US I get asked "What's it like to live in the kind of socialism you have in Finland?" And I just say "I don't know what socialism feels like. We are a capitalist country with a market economy." (Olli laughs)

Ivar: Have you done any research into how UBI could soften the impact of mass job loss from automation?

Olli: I can answer this using Finland as an example. Over the last three decades in Finland, 80% of the males have full-time permanent employment and 70% of the women have the same. That number has stayed the same, but what we are forgetting to see is that the nature of employment has changed. In the last three decades, we see the number of self-employed people has risen very much. Among those self-employed are many freelancers, micro-entrepreneurs, zero-hour workers, Uber drivers, etc. All of them are problematic from the social security point of view because the social risks that we had during the industrial era led to the creation of our current social security system, but those risks are very different to what we see in the digital economy.

In the industrial economy, a work accident was straightforward: imagine a worker at a saw mill loses his leg. In this case, it's easy to see that, yes, this worker has lost his leg and needs compensation. Nowadays it's very difficult to constitute what a work accident is. A worker in an office gets lung problems because of the ventilation system. Is that a work accident or not?

This a good example that shows how we have to start thinking differently—especially since it's getting even more complicated. When a guy working on his computer in the gig economy gets sick, how do we know he's too sick to work or that he needs compensation?

As automation takes more jobs, people who get replaced will likely start taking up more gig economy jobs that don't constitute full-time employment. They may have several smaller employers, or they find independent means to make extra income. But it is unlikely that these new part-time jobs will ever provide enough to adequately replace full-time work in terms of pay and social security compensation. If we know that a great portion of our population have jobs that could be automated in the next few decades, then a singular basic income benefit will help those people out and help the government avoid having to decide which people qualify for which benefits.

WITH OLLI KANGAS

Ivar: You posted a graph about social mobility on Twitter that showed that it takes 5 generations for a low-income family in the US to reach the social median whereas it takes just 2 generations in Denmark. Do you think your research says anything about stimulating opportunities for upward social mobility via basic income?

Our results do not say anything about that in particular, but it's also something that must be studied over time. However, we can say that if the basic income gives more confidence to people and allows them to be more responsible and self-relying, then it tells us that they could be responsible for the lives of their children. In the Canadian and American UBI experiments, they found out that the children of basic income families had better records when it came to the level of education they took part in. They saw that these children stayed longer in education then families in the control group.

In those same studies they saw the employment rate of men in those families go down, but if that's because these males were using the basic income as an opportunity to continue their education and get a degree. Through this they had better possibilities for a better job.

Ivar: This is huge, right? I mean, in the US, money tends to be the biggest barrier to education.

Olli: Of course. With women they saw a decrease in employment too. But when you take a deeper look you see that the women who were no longer working were most often ones with small babies. In a country without maternity leave, basic income provides a possibility to stay more with their babies.

Ivar: On a personal level, how did your perception of basic income change after the experiments?

Olli: Well, besides all the possibilities that basic income allows, I realized it's politically unwise to call it 'basic income.' It could be better if we called it 'safety net' or 'basic security'. There's a lot of politicians who are scared of basic income, but 'basic security' could be easier for them to buy.

Ivar: Ah so basic income has a bit of a marketing problem.

Olli: Yeah yeah. There's a nice story in the Odyssey where Odysseus escapes the cave of Polyphemus. Before he is gone, Polyphemus tries to ask Odysseus "Who are you?" and Odysseus answers "My name is nobody." And because Polyphemus didn't know what his name, he couldn't put a curse on "nobody."

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But then Odysseus sailed further away from the cave, he was silly enough to yell “My name is Odysseus and I am from Ithaca.” That curse eventually meant he could not return to Ithaca and was condemned to sail here and there and there. It’s a very good classical story about the meaning and importance of names. It seems basic income functions as a system, but we may need to rebrand it.

“As automation takes more jobs, people who get replaced will likely start taking up more gig economy jobs that don’t constitute full-time employment.”

DAY ONE

WHAT ABOUT NON-GOVERNMENTAL BLOCKCHAIN-BASED UNIVERSAL BASIC INCOME?

BY ABHINAV RAMESH

“WHERE DO WE GO FROM HERE”.

DAY ONE

UBI, OR UNIVERSAL BASIC INCOME, HAS ALWAYS BEEN A HOTLY DEBATED TOPIC. UBI COULD HAVE QUITE A FEW BENEFITS THAT COULD BRING ABOUT MORE SOCIAL EQUALITY AND A MORE EVEN DISTRIBUTION OF WEALTH. GREAT THINKERS SUCH AS THOMAS PAINE CALLED FOR SOMETHING KNOWN AS THE "CITIZENS DIVIDEND" WHICH IS UBI THAT WOULD BE PAID FROM TAX TAKEN FROM LANDOWNERS. THE GREAT ECONOMIST MILTON FRIEDMAN ENDORSED BASIC INCOME SINCE 1962. DR. MARTIN LUTHER KING JR CALLED FOR A BASIC INCOME IN HIS BOOK "WHERE DO WE GO FROM HERE".

ALL UBI TRIALS DONE TILL NOW HAVE BEEN DONE WITH GOVERNMENT BACKING OR BY CHARITIES OR AS A TRIAL WITH A PRIVATE INSTITUTE. I WILL NOT GO INTO DETAILS OF THE HISTORY OF THIS CONCEPT, AS THERE IS GREAT LITERATURE ON THE SAME AVAILABLE ON THE INTERNET. THE OBJECTIVE OF THIS ARTICLE IS TO HIGHLIGHT THE POSSIBILITY OF CREATING AN UBI SYSTEM ON A DECENTRALIZED PLATFORM.

BITCOIN WAS INTRODUCED AS "PEER TO PEER ELECTRONIC CASH" IN 2009. BITCOIN BRILLIANTLY SOLVED THE DOUBLE SPEND PROBLEM EXISTING WITH TRANSACTING ON THE INTERNET, AND ENABLED PEOPLE TO TRADE A FINANCIAL ASSET ENTIRELY PEER TO PEER WITHOUT ANY CENTRAL AUTHORITY (READ "CENTRAL BANK") CONFIRMING THE TRANSACTION. DUE TO THE LIMITED SUPPLY OF BITCOIN, THE PROOF OF WORK MODEL THAT ENABLES YOU TO EARN BITCOIN, THE FUNGIBILITY AND DIVISIBILITY OF BITCOIN, IT IS FAST BECOMING A STORE OF VALUE AS WELL AS A UNIT OF CURRENCY.

FOR A UBI SYSTEM, THE PROBLEM TO SOLVE IS NOT THAT OF REMOVING THE MIDDLEMAN, BUT OF CREATING ENOUGH VALUE SUCH THAT IT CAN BE DISTRIBUTED EVENLY TO ALL. DECENTRALIZATON HELPS SINCE EVEN DISTRIBUTION CAN BE ENSURED, VALUE CAN BE CREATED THROUGH THE NATURE OF CRYPTOCURRENCY.

ON ANOTHER NOTE, TECH — ESPECIALLY SOFTWARE, SEEMS TO FLOW FROM THE TOP DOWN; THERE ARE A PRIVILEGED FEW WHO USE THOSE PRODUCTS INITIALLY BEFORE IT FINDS IT'S WAY TO THE NOT SO PRIVILEGED.

UNDERSTANDABLY MOST LARGE COMPANIES ARE FORMED THIS WAY AS IT'S POTENTIALLY EASIER TO SELL SOMETHING FOR $100 TO SOMEONE WHO CAN PAY FOR IT, RATHER THAN SELL SOMETHING THAT'S $1 TO A 100 PEOPLE. UBI, ESPECIALLY WHEN PEGGED TO A BLOCKCHAIN ASSET, CAN POTENTIALLY DISRUPT THIS TREND BECAUSE IT IS BY DEFINITION AVAILABLE TO EVERYONE EQUALLY.

THE CREATION OF MONEY THROUGH THE SEIGNIORAGE REFORM IS DISRUPTED BY MINING ON A BLOCKCHAIN, AND THE DISTRIBUTION OF MONEY CAN NOW BE DISRUPTED THROUGH ID MANAGEMENT ON BLOCKCHAIN + DISTRIBUTION OF CRYPTOCURRENCY THROUGH FAST PAYMENT MECHANISMS SUCH AS LIGHTNING NETWORK. PRINTING OF NEW MONEY CANNOT BE CHANGED ON A BLOCKCHAIN, BUT A PART OF THE NEWLY PRINTED MONEY CAN BE USED TO MAKE UBI PAYMENTS THROUGH AN UPGRADE TO AN EXISTING BLOCKCHAIN PROTOCOL. THIS WOULD ALSO BE POSITIVE TO MINERS AS MORE PEOPLE USE CRYPTOCURRENCY AND THIS COULD INCREASE VALUE OR AT THE LEAST KEEP THE SAME PRICE.

THE GROWTH OF DECENTRALIZED CURRENCIES, WITH THE RIGHT GOVERNANCE AND INCENTIVES IN PLACE, COULD CREATE A COMPLETELY TRUSTLESS WAY TO CREATE AND DISTRIBUTE MONEY EVENLY TO PEOPLE AROUND THE WORLD.

THE RAPID ADVANCEMENT IN DECENTRALIZED TECHNOLOGIES ALONG THE VERTICALS OF GOVERNANCE, CONSENSUS MECHANISMS, DATA AND TRANSACTION PRIVACY, STORAGE, COMPUTING, DATA TRANSFER GIVES THE ABILITY FOR THE ECONOMIC MODEL FOR AN UBI TO BE TRANSLATED INTO COMPUTER CODE THAT CANNOT BE CONTROLLED BY A SINGLE PARTY OR A GROUP OF PARTIES. THE ECONOMIC MODEL IS EVOLVING FAST, BUT SO IS THE TECHNOLOGY. THERE NEEDS TO BE A WAY FOR BOTH TO UPGRADE SIMULTANEOUSLY WITHOUT BREAKING THE TRUST IN THE UBI CURRENCY.

AT A TIME WHERE AMERICA'S POLITICAL WORLD APPEARS UNLIKELY TO CONSIDER THE IDEA OF IMPLEMENTING A BASIC INCOME PROGRAM, IT SEEMS IT MIGHT JUST HAVE TO BE A PRIVATE BLOCKCHAIN COMPANY THAT HELPS CREATE THE SAFETY NET AMERICANS WILL NEED.


DAY
ONE

DAY ONE

WHAT IS HARMONY?

BY DELPHINE ADRIANA

IS HARMONY JUST ANOTHER CRYPTOCURRENCY? OR IS IT A NEW PLATFORM FOR BITCOIN, ONE THAT DOESN'T DEPEND ON OLD FACTORIES STUFFED WITH COMPUTER SERVERS, MINING MACHINES AND INDUSTRIAL FANS? OR IS THERE SOMETHING WE'RE MISSING HERE? IS HARMONY MORE THAN THE NEXT DEVIATION IN THE EVER-EVOLVING WORLD OF CRYPTOCURRENCIES?

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OR ARE WE ACTUALLY JUST TALKING ABOUT THE ONLINE DATING SITE EHARMONY?

NO. CREATIVE DIRECTOR ROBIN SCHMIDT ASSURES US THE WORK OF HARMONY EXTENDS FAR BEYOND PLAYING THE ROLE OF CUPID (ALTHOUGH THEY DO HAVE AN IDEA THAT TECHNOCRATS ARE BOUND TO FALL IN LOVE WITH). TO CLEAR THE AIR OF ANY CONFUSION ABOUT WHAT HARMONY IS, ROBIN SET OUT TO DELICATELY EXPLAIN HARMONY AS IF HE WERE SPEAKING WITH SOMEONE WHO IS ABSOLUTELY CLUELESS ABOUT THE WORLD OF TECH.

"HARMONY IS A BLOCKCHAIN—AND A BLOCKCHAIN IS A FANCY WAY OF SAYING A LEDGER OR A SPREADSHEET," ROBIN SAYS, SITTING BEFORE A WINDOW ON A SUNNY DAY IN AMSTERDAM. "NOW THAT DOESN'T SOUND VERY SEXY, BUT THE PROBLEM WITH SPREADSHEETS TODAY IS THAT THEY'RE GENERALLY IN THE HANDS OF A SINGLE ENTITY OR AN INSTITUTION WHO CAN, AT THEIR OWN WHIMSY, ALTER THE CONTENTS OF THAT LEDGER, AND IN DOING SO, ALTER HISTORY."

"WHAT A BLOCKCHAIN DOES IS IT ESSENTIALLY CREATES AN IMMUTABLE VERSION OF EVENTS. IT MEANS THAT IT CANNOT BE CHANGED AFTER THE FACT. THE APPLICATIONS OF THIS COULD HAVE ANYTHING TO DO WITH FINANCE AND TRUST BETWEEN TWO PARTIES, SUCH AS IF YOU'RE BUYING A HOUSE. A BLOCKCHAIN IS EFFECTIVELY A RECORD OF EVENTS THAT CAN'T BE MESSED WITH AND THAT DOESN'T ALTER THROUGH TIME AND ALLOWS TWO PARTIES TO TALK TO EACH OTHER WITHOUT EVER HAVING TO TRUST ANYONE IN THE MIDDLE, LIKE A BANK. THAT'S A VERY PROFOUND THING SINCE WE'VE GROWN UP WITH INSTITUTIONS WHO PROMOTE A CENTRALIZED VERSION OF TRUST BECAUSE THEY'RE THE AUTHORITY."

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BUT ARE THESE INSTITUTIONS NOT TO BE TRUSTED?

"IN THE LAST 10 YEARS SINCE THE BANKING CRISIS, WE HAVE EVERY REASON TO DISTRUST THESE INSTITUTIONS BECAUSE THEY'RE HEAVILY POLITICIZED OR THEY'RE MOTIVATED BY THEIR OWN PROFIT AND NOT BY THE INTERESTS OF THEIR CUSTOMERS. THERE'S A DESIRE TO SEE AN ALTERNATIVE GROW UP, TO SEE A SYSTEM WHERE I CAN TRANSACT WITH SOMEBODY WITHOUT HAVING TO TRUST SOMEBODY ELSE, WITHOUT HAVING TO BE WORRIED ABOUT WHAT THEY'RE DOING WITH MY MONEY AND HOW SECURE THEIR SYSTEMS OR IF THEY'RE GOING TO GET HACKED. WE SEE FACEBOOK AND THESE BIG COMPANIES GETTING HACKED. IT HAPPENS."

IN MAY, SEVERAL UNPROTECTED DATABASES SURFACED ONLINE CONTAINING THE RECORDS OF 419 MILLION FACEBOOK USERS, WHICH INCLUDED INFORMATION SUCH AS THE USER'S NAME, GENDER, COUNTRY LOCATION, AND PHONE NUMBER—LEAVING THESE USERS AT RISK TO SIM-HACKING…OR WORSE, MORE SPAM PHONE CALLS. BIG BANKS ARE JUST AS SUSCEPTIBLE TO LEAKS AND HACKS. MONTHS AGO, CAPITAL ONE FELL VICTIM TO MASSIVE CYBERATTACK, WITH THE PERSONAL INFORMATION OF OVER 100 MILLION PEOPLE COMPROMISED. THESE HACKS—AND THE THOUSANDS MORE THAT TAKE PLACE ON A DAILY BASIS ARE A TESTAMENT TO HOW FLIMSY THE CONCEPT OF TRUST HAS BECOME IN THE CURRENT WORLD ORDER.

"THE PROMISE OF BLOCKCHAIN IS TO CREATE A BETTER SITUATION FOR HUMANS," SAID ROBIN, WITH A SENSE OF EASE. "WHEN YOU DIVE INTO THE DETAILS IT GETS INCREASINGLY COMPLICATED, BUT AT ITS CORE THE IDEA IS SIMPLE: LET'S RE-INSTIGATE TRUST AS A CONCEPT THAT PEOPLE CAN BELIEVE IN."

DAY ONE

THE BLOCKCHAIN AT WORK

OK, the picture is getting a bit less foggy, but it's still pretty fucking foggy. How does blockchain work?

"When a transaction on Bitcoin, it runs on blockchain and functions because there are people (node-operators) who secure the network and run the protocol. They are mining bitcoins and in doing so, they verify that a transaction has happened, they verify that a ledger is what it says it is. Proof-of-work (PoW), which is the consensus mechanism that Bitcoin is built on, is very secure but it's very slow and very energy intensive--and that security is fine if you're sending large volumes of money and you're not worried about when it's going to arrive."

"What Harmony does is that it allows the same sort-of transactions to occur, but much, much faster, and in a very different, secure way. Now if I take my card, go to shop, and pay for something, I fully expect that transaction will be completed within 20 seconds. And if we want a secure blockchain network to be adopted, it needs to be as fast at that. Harmony is working to enable that to happen."

So how will this restore trust in people as they go about their daily transactions?

"Decentralized, peer-to-peer finance is one killer application of blockchain that could make people feel more secure about money, but it will take a long time to be adopted. There are, however, a bunch of simple things that blockchain can do to bring trust, such as immutability: proof that something actually happened. If you think about a contract, which is a piece a paper we put in a drawer, even that's difficult to trust. But if you take a contract and upload it to the blockchain, you can't fuck with it. It actually happened—and in situations where there are legal disputes or contract disputes, having a verifiable document will be really important."

Harmony isn't alone in this quest to build a blockchain platform that could uphold a decentralized world, as Robin just made clear. But this also begs the question: if there all these companies, why the hell should we care about Harmony?

"THERE'S DEFINITELY IN THE WORLD RIGHT NOW AN ISSUE OF TRUST. SO, IF WE'RE TO ADDRESS THE PROBLEM OF TRUST AND WE WANT TO MOVE INTO A DECENTRALIZED WORLD WHERE OUR DATA IS MORE SACRED AND BELONGS TO OURSELVES RATHER SOME UNKNOWN ENTITY, THEN WE HAVE TO BUILD THE INFRASTRUCTURE THAT MAKES THAT WORLD POSSIBLE. AND THAT INFRASTRUCTURE, THE UNDERPINNINGS OF WHICH, ARE BEING BUILT BY COMPANIES LIKE HARMONY."

"The temptation is to think we're all in competition with each other, however, that's not really the case. There isn't going to be one Google that wins the whole race because it just can't be that way. A monopoly could happen later on, but at the moment, the research from all these different projects are feeding information to one another. It's open source. So, there's a massive sharing of information, primarily because the problem we're solving is global and it affects everybody. So the desire to decentralization as a thing, one that grows and gets adopted, is greater than simply our product being better than yours."

WAKING THE PUBLIC

The current banking system isn't perfect, but for most people—especially in a country like the Netherlands—it works. One can safely assume that for every euro they store on their bank account, they can spend a euro in real life. This is the sign of a functioning system, not one in need of a fix. And for the majority of the public where decentralization isn't a pressing matter on their minds, it's unclear how the transition to a decentralized system will take place when few people are asking for it. Robin, grinning, doesn't seem all too worried about this.

"At one point people were using Napster and Lemon to download MP3s. Then Spotify comes along and opens up the world of streaming. To anybody who was a proud owner of an iPod and had all their MP3s as a collection on their computer, I would challenge them to imagine themselves back then saying 'Yeah, I don't need to own my music. I'll just have this thing out there in the cloud and I'll just access it—it'll be great.'"

"That was a crazy idea, especially since collecting stuff was such a human thing. We are once again sitting in front of a stack of technologies that will open up a bunch of applications that we never knew we needed, but until you become 'woke'—which is the classical expression in crypto—it's very hard to see that. But that's exactly how innovation happens. You don't need you need until suddenly it becomes a no-brainer."

CHAPTER 5

One last brainfart.

BY DON PIANO

Though it is often said that blockchain is a solution in search of a problem, this is not really the case.

The problem is already known: centralized systems of organizing information are failing us in the digital world--and it's causing huge issues for people in the real world. But while this may seem blatantly obvious for those existing within the cryptosphere, the problem is simply not understood by the general public.

Without any understanding, or even awareness of the problem, the solution will never receive the support it needs to make mass adoption possible.

What blockchain offers is essentially a new means of organizing information in a way where the flow of data is not managed and controlled by one central party. It is a yawn-inducing technical solution on the surface. But once you move away from technicalities and dive into the consequences of blockchain, it suddenly feels more revolutionary than a bloody coup d'état.

Within blockchain we see the potential to topple the prevailing structure of the digital economy, a structure that allows a sole owner to have full control of all the data and users within a network. Because the digital economy has moved onto the networks of just a few centralized platforms, a deep asymmetry has formed in terms of information, money and power, splitting the world into a small minority of have's and a vast majority of have-nots.

Every single day regular people feel the symptoms of this asymmetry. Wages are stagnant, cost of living is soaring, gentrification continues, gig workers are being exploited, stock markets are getting rigged, data isn't secure, and wealth inequality is rising to unprecedented levels. All the while automation looms in the background, gearing up to eliminate hundreds of millions of jobs around the world by 2030.

People feel and will continue to feel these symptoms in the coming decade, but without knowing the root cause, what can anyone do? It's like an office worker suffering from headaches. She might assume a flu virus is spreading through the office, but until a doctor confirms this, she cannot be sure that it isn't carbon monoxide poisoning coming from the office. If it is the latter, suddenly the solution looks very different than the flu medicine she was about to take.

Blockchain needs a doctor. Blockchain needs someone to break out of the closed-off cryptosphere and enter the realms of pop culture to publicly diagnose the symptoms of the digital economy. Only when the root cause is identified clearly can blockchain be pushed forward as a legitimate antidote that people will consider adopting. We think Harmony should be this doctor.

An outsider's view of blockchain

Up until a few months ago, I hardly spared a thought for blockchain. Then Harmony came along, and suddenly I found myself spending day and night researching the technology from all angles. I was in a full-fledged affair with blockchain. But now the honeymoon phase is over. What started as a promising romance has faded away slowly. The more I researched, the more disenchanted I became with blockchain.

I do not say this in a Nouriel Roubini way--because I do have confidence in the technology itself. Rather, my belief in blockchain faded when I started realizing just how disconnected blockchain's leading companies seem to be from the lives of everyday people--the exact people who should be blockchain's target audience.

My first proper introduction to blockchain came from an interview with Harmony's creative director Robin Schmidt (see previous page). In hindsight, I think this is the very reason why I quickly became convinced of blockchain: instead of sifting through various interpretations of blockchain on the Internet, I was learning of its potential straight from the source.

Robin, in all his Oxfordian eloquence, explained the structural flaws of the centralized systems that manage our money and data. Then he explained Harmony's vision of using blockchain to create an alternative system, one where I can transact with somebody without having to worry about what banks are doing with my money or whether their systems will get hacked.

"At its core," Robin said "the promise of blockchain is to restore trust as a concept people can believe in."

Great, I thought. If blockchain could allow me to supersede banks and fend off hackers, then fuck yeah I'll support it. This was my line of reasoning. Now, in retrospect, I believe I was only able to summon such a gung-ho attitude because I learned about it directly from Robin, who focused on tangible problems in today's world and avoided blockchain's endless technical complexities while explaining it.

When I set off to research blockchain on my own, I could hardly find a trace of Harmony's vision anywhere within the online conversation surrounding blockchain. Other than the occasional blog, few people are communicating the idea that blockchain could allow us to take back control from banks and other authoritative institutions who don't have our best interests in mind.

Anyone who visits the website of a blockchain company today will be met with indecipherable terminology and cryptic graphics in corporate shades of blue. There is no story or narrative, nor is there an obvious problem that the company is attempting to solve. Above all, there is nothing to suggest that this blockchain company actually wants to create an alternative decentralized system where you are the sole controller of your money and data.

I've analyzed Harmony's website a million times, and each time I wonder why Robin's original vision is nowhere to be seen. You don't see anything about Harmony's aim of restoring trust and bringing autonomy to people. Instead, you get to read how Harmony uses "design principles such as sharding and pipelining to parallelize transaction processing."

Of course, blockchain is a complex potential solution to an incredibly complex problem. But

at a time where the general public is becoming more and more infuriated by invasive algorithms that they cannot understand, presenting blockchain as a solution driven by more incomprehensible algorithms isn't going to help people feel enough 'trust' to ditch the banking or data systems they're comfortable with.

I don't mean to say that Harmony must avoid presenting its uber-technical solutions, but it must avoid relying solely on them. It's a bit like presenting a new drug by only naming the chemicals inside it: unless you're a chemist, you will have no idea what the real effects of these chemicals will be.

The good thing for Harmony is that the whole blockchain scene seems to struggle with presenting itself in a way people can understand. If Harmony can nail this, then it can propel itself to the forefront of the blockchain world.

Tomorrow, not today

If Harmony wants to keep pushing a niche cryptocurrency onto the market, that's fine. Just abandon the vision of creating a 'radically fair economy' altogether and commit fully to cryptocurrencies.

But if Harmony is dedicated to becoming a force for decentralization, then there's only one thing it should do: be the company that boldly calls out the biggest problems of the future and openly explores ways to go about solving them.

At a time where governments, banks and other financial institutions have proven themselves incapable of safeguarding our privacy or wealth, there is a great opportunity for Harmony to position itself within this narrative as the one working to save people from the clutches of self-interested institutions. In a similar sense to how Andrew Yang is commonly thought of as a vanguard of Universal Basic Income (UBI), Harmony could be the first company people think about when they want to protect their money and data in our digitized world.

There's a company with an eye on the future that has been wildly successful in building interest around itself. It's called Alcor. If that doesn't ring a bell, Alcor is a cyrogenic company that is preserving dead bodies of people who want to live in the future by freezing them in tanks at a bone-chilling temperature of -320.8 °F. Will such an idea work? Probably not, but the idea alone has captured the imagination of media outlets everywhere--triggering people all around the world to pay up over a $100,000 each to reserve a spot in one of these frozen tanks.

While Harmony isn't as outlandish as Alcor, it does have the potential to build a narrative around a future problem that also manages to capture the imagination of media outlets and people alike. Let's take the issue of automation, for example, which is expected to put millions of Americans at risk of being displaced over the coming decade. These Americans form a

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giant target audience for Harmony who would most certainly be interested in knowing how Harmony could help them survive in a future without work. Of course, the prospect of a big corporation replacing you with a robot is frightening, but Harmony could flip the script and create a narrative that empowers people in the face of automation.

As a corporation, the prime motivation to automate a job is to cut out the "middleman", the pesky human standing in the way of greater profit. But in Harmony's vision of the future, we see a whole different perspective on who or what a middleman even is.

The middleman is not a human in this future, but rather, the institutions that mediate our lives. Regular people could cut banks out of their lives, for example, replacing them with a blockchain that stores digital money in a verified account that belongs solely to you (see page #). Blockchain could allow people to take control of their data and sell it if they please to make extra money (see page #). Or blockchain could be the mechanism through which a possible basic income gets distributed in the future (see page #).

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Does Harmony have the technical capability to do these things? Right now, it doesn't matter. It's a technical issue, and technical issues can be solved when more money starts pouring into Harmony. And there's no better way to get money pouring in then by making Harmony a newsworthy brand.

Harmony may not have a solid solution right now and it might take years for its decentralized platform to take off. But by transforming itself into a brand that captures attention by addressing the problems of the future, Harmony can capture the funding it needs to continue pursuing a real blockchain-based solution. Fortunately for Harmony, each chapter in this magazine is dedicated to a different narrative where Harmony can sink its teeth in.

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Chapter 1

is a plunge into *robot automation* and how it will change what it means to be human.

In Chapter 2,

we retrace *the origins of the Internet* to uncover how a supposedly "free" Internet led to the rise of a handful of ultra-powerful tech companies that are concentrating wealth in a way never seen before.

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Chapter 3,

which we named *We Don't Want a Pimp*, is an exploration of a new form of capitalism built upon new surveillance technologies. It is here that we get as close as possible to finding out what happens with our data when it is extracted from us online.

Then, in Chapter 4,

we dive into *self-sovereign identity (SSI)*, a new technology that promises to give people the ability to reclaim their online identity and gain control over their data using blockchain.

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In between these chapters we have a couple of interludes. One explores Jaron Lanier's proposal for fixing the Internet. The other visits the possibility of a blockchain-based Universal Basic Income (UBI) to help people cover their basic needs. Combined together, all the articles that make up this magazine diagnose the illnesses of our digital world and provide a few possible ways we can cure these problems through blockchain.

Escaping Bitcoin's shadow

Like I mentioned earlier, I started becoming disillusioned with blockchain because of its deep disconnect with the world existing outside the cryptosphere--especially the post-capitalist world blockchain is appealing to. It's what led me to propose that Harmony should transition away from uber-technical representations of its product and start focusing on the tangible implications of blockchain technology. Should Harmony be motivated to do this, there are a few potentially thorny PR issues Harmony must be willing to address.

The first one is that in the eyes of the public, blockchain's claim to fame is its paternal link to Bitcoin. The links between the two are undeniable, of course, but blockchain must carve its own path away from a currency most famous for being used as an untraceable means of buying drugs on the dark web. It is an enduring link that undermines the ability for people to recognize the change in power dynamics that the technology allows for.

Blockchain's link to Bitcoin is also problematic for environmental reasons. After all, blockchain relies on endless redundancy, "securing" our data by putting copies of it on millions of computers around the world. Let's not be naive here: this sounds entirely excessive to those who are unaware of the protocol and unlikely to cultivate trust in people. It is a solution rooted in the same opulence that defines Generation X, a generation that grew up thinking more is better. The world is now 'woke' to the environmental cost of running the energy-intensive mechanisms that underpin Bitcoin. In other words, Harmony must tread carefully when pushing a solution with such a heavy environmental toll is out of line with today's green zeitgeist.

Another glaring problem with blockchain from the public eye is that it is utterly dominated by men, with only 1 to 5% of blockchain companies being made up of women, according to the World Economic Forum. That tells us that even if blockchain wanted to feel empathy towards all its consumers, it would miss out on half of them. Should mass adoption be the goal, women must be included in the equation.

DAY ONE

Final Reflections

I am sitting in the office of a creative agency tucked away on a side street in Amsterdam. On my left is a young man with jet black hair creating animations on a powerful computer. His parents hail from Morocco and raised him in a strict manner that aligns with the teachings of the Q'uran. Until he was 15, he wasn't allowed to have a computer. Now, just 5 years later, this self-taught animator is creating incredibly realistic 3D visuals… on a computer he built himself.

The animations he is creating depict the latest technologies from the world's biggest lighting company. One animation shows skyscrapers with urban farms built upon them, each one emitting a bright pink LED light to help various crops grow as fast as possible. Another animation shows a timelapse of the sun setting over a lake in Chile. Inside the lake are circular arrays of light that float above an aquaculture farm where fish are raised in a sustainable manner.

As I watch this man work on these animations, I think about how quickly the world we live in progresses. Just five years ago this man didn't own a computer, nor did the technologies exist that he now makes visualizations of on his computer.

In my own time writing this magazine, the landscape of the digital world has shifted several times. New digital technologies have emerged, new regulations put in place, new problems created. My story about data exploited has already become outdated after Google announced it would remove all third-party cookies by 2022, a move that will have seismic implications for the Internet.

The point is that our high-tech world evolves faster than ever before. To try and create a solution for the present moment is to create an artefact. The only path to mass adoption for Harmony is to recognize the trends of today and where they will lead us tomorrow, then making these ideas for the future known publicly as if to create a self-fulfilling prophecy. Harmony must clear its throat and become a vocal leader, a recognizable force for decentralization and a part of the movement to reclaim our autonomy from powerful digital technologies.

Harmony's time will come. It just needs to be ready to activate when the right moment arrives.

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