

Catharina Drejer & Kevin Bales

#SlaveTech

A snapshot of slavery in a digital age



Skaperkraft
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Catharina Drejer & Kevin Bales
with Gabriel Bales

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'Many of our technology-related problems arise because of the unforeseen consequences when apparently benign technologies are employed on a massive scale. Hence many technical applications that seemed a boon to mankind when first introduced became threats when their use became widespread.'

- MELVIN KRANZBERG,

Professor of the History of Technology, July, 1986.

#SlaveTech: A snapshot of slavery in a digital age

‘Fear dries the mouth, moistens the hands and mutilates. Fear of knowing condemns us to ignorance, fear of doing reduces us to impotence. Military dictatorship, fear of listening, fear of speaking, made us deaf and dumb. Now, democracy, with its fear of remembering, infects us with amnesia, but you don’t have to be Sigmund Freud to know that no carpet can hide the garbage of memory.’

– Eduardo Galleano, *The Book of Embraces*

My birth year lands me just at the start of the infamous Millennial Generation. Although I graduated high school in 2002, I can easily recite my childhood landline phone numbers and I remember painstakingly composing essays on lined paper in cursive writing. I can also remember my first cell phone and late nights chatting on AOL Instant Messenger (AIM). More recently, I remember my first experience of identity theft and the frustration of losing all my login passwords.

My life, as for many of my generation, is uniquely marked by technological change.

For some of us ’80s babies, including me, there is a sore spot when we are called millennials and we respond as if it were an insult. We cite our myriad of experiences with past technologies, reacting as if we need to defend our honour. Yes, I have used a typewriter, thank you very much. We will happily recount the days of playing Pac Man, but we are also among

the generation that created and readily adopted social media and mobile phones.

For those of us at the start of the millennial generation, we have experienced our lives alongside major technological advancements. We have lived our lives before and after the proliferation of laptops and cell phones. When referring to us as millennials, what is often neglected is that we have lived, like any other generation, with the benefits and the challenges of the existing technology of the times.

Millennials, like any other generation and like most humans, want to be recognised for our full experiences in the world, past and present. We do not want experiences erased.

In the summer of 2017, I went on a three-week solo hike in Yosemite National Park. One of my stated goals for the trip was to reflect on my relationship to social media and technology. That summer, I was transitioning from my role as an IT Team Manager to be a full time PhD student studying modern slavery.

My Team Manager position was at a well-regarded IT consulting firm in the San Francisco Bay Area. We served some of the major tech giants and we served local schools and NGOs. We provided everything from user support to network engineering. Our employees worked primarily on-site at our clients and were not in our main office every day. We communicated through technology *a lot*. And yet, the company favoured in-person meetings and conversations. I was tasked to visit my employees on-site as much as I could.

From a tech company, I learned more so than ever, that technology cannot replace human relationships. Rather, technology serves as tools to conduct human activity. Human activity ranges from conventional to idiosyncratic, from good to evil.

Technology itself is made of raw material. Hardware is made of metals and those metals need to be mined and put together by human beings. Software is made of programming language written by human beings, and this language exists on physical devices that are put together by humans. Humans are involved in shipping materials, selling devices, fixing them, and we are the end users.

The raw material that makes up technology is value neutral, but it is the humans who interact with this material and our decisions for how we use them that are value-laden. We can use them for conventional purposes or weird ones. We can use them for good or for evil.

On my hike, I thought a lot about my responsibility to define my use of technology. I brought my mobile phone as the camera for my trip and I put it on airplane mode. I vowed to use it only as a camera and to let people know at key intervals that I was alive. I consider the outdoors my church and I wanted to treat this trek as a sacred space.

For the first time in over a decade, I wrote in my journal multiple times a day. I started writing poetry again, and I sketched some of the breath-taking natural landscape. When I turned on my phone, I felt myself drawn back into social media as if I never left the city.

My life, *unlike* many in my generation, is also uniquely marked by slavery.

I was enslaved in the commercial sex industry by my parents in the heart of one of the technology capitals of the world. From birth until recently, I lived in the San Francisco Bay Area of California. I lived in what became known in the 1990s as the Silicon Valley, the place where personal computers were born. And until recently, I lived a twenty minute drive from

San Francisco, where the headquarter offices of major tech companies are currently located in or near.

My memories of the beneficial and nefarious uses of technology in my life render me ambivalent to technology today. Both of my parents used technology to monitor and control me through the use of cell phones. They also used online banking to monitor and control the money I had access to. As Eduardo Galleano writes, the ‘garbage of memory’ is difficult to hide.

There are times I want to throw my smart phone out the door and get a flip phone. I want to cancel all of my social media accounts and stick to letters and emails.

And yet, technology allowed me an outlet during the lonely times of my childhood (hence the late night AIM chats). TV and movie streaming help me in times of depression. Technology now allows me to share about my activism as a survivor leader on the Internet in real time. It also allows me to facilitate connections between fellow survivors of slavery around the world.

The ‘garbage of memory’ is difficult to hide, but so are the diamonds of memories. We cannot escape the fact that despite technological advances, we never truly made slavery a historical memory. We may have legally abolished it in most places in the world, but we have never ended the practices of enslavement.

Technology will continue to change. The older millennials will remind us of the drastic impact on social life that these changes can have. We must accept and expect that technology will change in ways we cannot anticipate. We cannot escape the detrimental effects and uses of technology and we cannot escape the potential for its liberating uses as well.

We can, however, remember the humane functions and envision a world where we minimise the negative consequences of technology. If we take a closer look at how technology has facilitated human slavery in the distant and more recent past, how can we use this knowledge to drive technological advancement for the sake of human freedom?

How can we move beyond our fear of remembering and listening, and utilize the garbage of memories to find and create the gems?

This book will lead the way. Kevin Bales and Catharina Drejer take you on a journey into the past and into the future. They urge us to reflect on our relationship with technology and develop new technologies to facilitate our sacred trek on this earth together.

I leave you in their good hands.



Minh Dang
Nottingham, United Kingdom
August 2018

'Is anyone awake?'

When her thirteen-year-old daughter's behaviour started to change Elizabeth wasn't that worried – all teenagers go through phases after all – but then something didn't seem right.¹ Like all her peers Rebecca was active on social media, logging onto Facebook, Snapchat, Instagram and Kik, and always glued to her phone. Rebecca had always posted pictures of herself with friends, but what was worrying Elizabeth was that the pictures seemed to be changing, becoming more sexual. Pushing boundaries came with being thirteen, or was this something else?

Also, Rebecca herself was changing. She seemed depressed at times and had lost weight. Make-up and body image seemed to be a big focus, and all this was showing up on her social-media profiles. Puberty is tough, was this just teen angst? Rebecca seemed on the edge of something that worried Elizabeth, but what was it? In what she knew was probably a parental over-reaction, but wanting to protect Rebecca, Elizabeth took her phone and computer away. Rebecca went into melt-down of course, doors slammed, tears flowed, but looking at Rebecca's phone Elizabeth found something much more disturbing.

She discovered that Rebecca had created a series of hidden social-media accounts and alerts were popping up from several unfamiliar social media accounts, clearly not her school friends. Every teen wants their privacy, but this shadowy world was something else. Was this the source of Rebecca's sudden changes? It was clear she was texting and messaging not just with her friends, but also with boys and men from

all around the country. These men were friendly, sometimes teasing, always complimenting, what were they up to? Hoping to understand, Elizabeth tried to talk to Rebecca about all of this, after all that's what the professionals recommended, but it didn't go well. Something seemed to have a hold on Rebecca.

They fought over Rebecca's access to phone and computer regularly, and one day, upset with her mother, when she had just turned fifteen, Rebecca ran away. It wasn't her first time. Elizabeth explains, "After we were unable to find her, I went to her school hoping to see her there. I reached out to Rebecca's friends hoping someone could tell me where she was, but nobody knew where she was and they were worried as well." After searching all the usual places, her parents called in the police.

The police immediately got involved, but they told Rebecca's parents something frightening. They explained that the first 48 hours after a child goes missing are critical. If Rebecca were not found within 48 hours, the chance of her ever being found would rapidly decrease.

But like all fifteen-year-olds locked to her phone, Rebecca left a digital trail of crumbs. That morning she posted on Snapchat that she needed a ride to school. Since she never arrived at school that was the last time anyone had heard from her. All day Rebecca's friends continued reaching out through social media, but no one got a response. A long day of terrible worry passed into evening, and then into night.

Then, after 36 hours of silence, at 3:30am, one of Rebecca's friends received a text: 'is anyone awake?' Luckily her friend's phone was on, luckily it woke him and he responded immediately telling Rebecca to use her settings to share her phone's location. Within moments a location popped up and Rebecca's friend called Elizabeth.

¹ Names and locations have been altered.

The police, along with Rebecca's father, left immediately. The signal was coming from a nice area of town, and they fixed the location as a one-bedroom apartment in a small block. Pushing through the door, in a room empty but for a mattress on the floor, they found Rebecca along with three men. Rebecca was in bad shape, but alive and now safe.

Slowly they were able to piece together what had happened. She'd left her house that morning with some friends who dropped her at a fast-food restaurant. Using a phone she kept secret from her parents, she'd sent a Snapchat story message asking for a ride to school, the last word before she disappeared. She couldn't make calls on the phone, but she could use it to text or send pictures whenever she had WIFI.

Soon after her Snapchat message went out Rebecca got a reply from a young man she had known from her previous school, a friend of a friend. Offering to pick her up, he picked her up from the restaurant, but instead of taking her to school, he drove around the city and then took her to the apartment.

For many weeks this young man had been following Rebecca on Snapchat. He was waiting for an opportunity. He wasn't looking for a girlfriend, this was his job. He was a *spotter* – someone paid to cruise constantly through social media looking for vulnerable, available, girls and boys. Paid by criminals, the spotter follows lots of young people online, up to 200 at a time, and carefully wins them over, grooming them, establishing trust and a relationship with the aim of meeting in person.

The chat might begin on a public space, but when the spotter feels they're ready, they go 'somewhere private' on the web and the conversation becomes more personal, intense, alluring. For many of these groomed people, sooner or later they

**After 36 long hours of silence,
at 3:30^{AM}, some of Rebecca's
friends got a message:**

"is anyone awake?"

will be ready for capture. Perhaps they've fought with their parents, perhaps with their friends, but their special secret friend online is always there for them and ready to help. Timing is everything, and when the time is ripe, the spotter will lure a young person into a car and deliver them to criminals. They might be human traffickers, they might be sexual predators, for a girl like Rebecca the outcome is the same – violence and enslavement. It is a tightly run and a lucrative business. And what did it cost to acquire this young woman so that she could be sold for sex? Just the time the spotter spent to lure her through the web, for criminals the internet can be a goldmine.

The apartment where Rebecca was taken was a *trap house*, an apartment or rental house where kids go to party. When someone gets an empty place and turns it into a trap house people, especially young people, come and go, day and night, to drink, buy and use drugs, and have sex. Temporary, unregistered, usually illegally occupied, these houses are perfect for holding and breaking in the young people, lured by spotters, who end up being trafficked. Once inside this trap house, Rebecca was held by the three men and not allowed to leave. Fortunately, perhaps Rebecca had realised something seemed wrong and had hidden her phone when she was being taken into the trap house. Much later, after being assaulted, Rebecca managed to turn on the WIFI on a phone belonging to one of the men and connected through it with her own phone. Through her pain she sent her desperate message - is anyone awake? – and connected to her friend.

The police had questions, was this kidnapping? A sexual assault? A teenager getting mixed up with the wrong people? But then the FBI got involved and linked the arrested men to other known criminals. Rebecca was about to be trafficked

by a couple known to the police. Through an informant they learned the couple were on their way to pick her up when she was located and rescued. Elizabeth says it was a miracle she was found just in time, but she suffers for her daughter, saying the stories of Rebecca's time in the trap house are a mother's worst nightmare.

Elizabeth had never dreamed that her daughter might be trafficked. After all, Rebecca was attending a private Christian school, they lived in a safe and respectable community; surely trafficking happened only to immigrants and the poor? Elizabeth now knows they were living in a bubble. Now her skin crawled when she thought of how human traffickers had been constantly in her home, whispering and influencing Rebecca through a series of phone apps. Digging through the hidden accounts, they could see the increasing manipulation, coercion and threats used by clever criminals. The signs had been there the whole time.

Elizabeth now thinks parents have to teach kids online safety. "We explain to our kids to not take candy from a stranger, to not get in someone's car, or to not open the door when you do not know who it is. Yet parents' knowledge of social media is so limited that they are simply not able to provide guidance on how to be safe online." She calls for parents to get digitally literate.

"Download the apps, figure out how they work and get help if you need to. But get educated!" Maybe she gave Rebecca too much freedom; she worries, like all mothers, that she's made mistakes. Children, especially teenagers dealing with hormones, feelings and puberty make irrational decisions, or no decisions at all, just letting themselves be pulled along. Elizabeth tells everyone now – it's the parent's job to help their children through this, even if they sometimes fail.

This story is not unique. It's not unique to America or any other country, it's not unique to a certain status or culture or community, it's not unique to the type of technology or software. Children are groomed every day and many are trafficked and some become a victim of online sexual abuse. Today Rebecca is still recovering. Her family has learned hard lessons on the use and misuse of social media and the applications used to groom and traffic children. They want to tell everyone: human traffickers might be (digitally) in your home right now.

Whether it is young people like Rebecca, adults seeking opportunity, migrants seeking safety, even the elderly looking for security, there are many ways that digital technology can be used to lure, trap, manipulate, exploit, and profit from the enslavement of people around the world. We've written this book to explore and expose the durable links between modern slavery and modern digital technology. This is happening in a rapidly evolving world where innovation and change are happening at a dizzying pace, and new ways of both enslavement and liberation emerge every day. To set the stage, in the next chapter, we look back in time illuminating how emerging technologies have always been used for both good and bad, how every time an amazing new tool is invented, there's also a criminal thinking of how to use it.

**Download the apps, figure out how
they work and get help if you need to.
But get educated!**

If the story of Rebecca has left you wanting to know more about protecting children and young people online, we've included some tips and suggestions. Today, Elizabeth educates others on the dangers of technology. She tells us about some of the red flags concerning teenagers and social-media use.

– If your child goes silent on social media, it is likely they have another account, maybe on another device you as a parent do not know about. What is not likely is that they have suddenly lost interest in social media since this is the main way they stay in touch with friends.

– If your child is withdrawing, showing a behavioural change, this could be a sign that something else is going on. Groomers are great at creating distance in important relationships, trying to make the teenager more dependent on them.

– If your child is suffering from depression, suicidal thoughts or cuts him or herself these are indicators that something is going on which makes them extremely vulnerable to grooming. Start the conversation and ask questions.

– If your child is active on social media, and they add another app that is exclusive to messaging like Whatsapp, Messenger or Kik, this can indicate that someone has suggested to them to download this and talk with them 'privately' or over an encrypted channel. The phone number is very difficult to trace which is an ideal situation for a groomer.

– If your child gets a tattoo they cannot explain, treat it as a warning. Traffickers will brand their property, like livestock, and often the victim does not know what this means and is therefore unable to explain.

– If your child is spending increasing time online.

– If your child is getting upset when he or she is not allowed on their device.

– If your child is taking extra steps to conceal what they are doing online.

– If your child is receiving gifts from people you don't know.

Slavery in the Age of Technology

"The ox is the poor man's slave"

Thousands of years ago Aristotle wrote that 'the ox is the poor man's slave'. But how can an ox be a slave? And how is a slave like an ox? The crucial link is that in this context, both the ox and the human are being used as tools. In fact, Aristotle said exactly that in his book *Politics*: "some tools are lifeless and others living", explaining that "for a helmsman the rudder is a lifeless tool and the [enslaved] watchman a live tool." It is not too difficult to think of animals and people as 'tools', and while it is less likely we would say an animal or a man is 'technology', they are and can be that too.

In modern English slang, calling someone a "tool" is a put-down, an insult. And most of us would shy away from so diminishing a person's humanity, so reducing their personhood, by thinking or saying that another human being is only a tool. Recognition of our common humanity leads us to hate the idea of treating people as things. But that may be why we fail to see how closely linked technology (tools) and slavery can be, and so fail to see how the ox and the slave are similar, and how their differences make the slave the much more profitable and useful of the two.

Today slaves, when compared to livestock, are cheap. A slave is capable of a tremendous variety of tasks, is adaptable to almost every situation, and can be 're-programmed' (through language and example) into new tasks and roles al-

most immediately. Given that fact, the relative cheapness of humans is remarkable. Of course, when people are free workers they are not so cheap. When the talented or skilful can set their own rates of payment for their labour, then those rates, those salaries, can be very expensive. In some types of work, such as with star athletes, bidding for workers in an open market is perfectly legal. In such cases, the 'purchase price' of a person can be many, many times the average income.

Because slavery is illegal, engaging in slavery-based business carries a risk. Yet even that risk is paradoxical. In almost every country the penalties for using slaves are extremely severe, but the chance of being caught is all but non-existent. Laws may be in place, but their enforcement, the training of police and funding investigation is lacking. In the economic equation of slavery-based business, the risk of being caught is always a factor, but that risk is usually not high enough to deter slaveholders. Much more important to those who would own and use human livestock is the profit margin.

Profits reflect what the 'services' of the slave can be sold for, or what they are worth when they replace the cost of free paid labour. Slavery profits are also affected by the cost of acquiring a slave. Like all livestock, like all investments, slaves have to make back their own purchase price to be profitable. And that is where human livestock become very attractive to criminal businesspeople. The cost of acquiring a slave is low, very very low when compared to their potential productivity. (In the next chapter, we'll look more closely at how slaves became so inexpensive.)

What's more, in the current political and economic climate of most countries, slaves don't even have to be purchased; they can be acquired simply through the offer of employment.

There is the cost of reaching the potential slaves and the expense of some time and resources to convince them that an offer of opportunity is genuine, but there is no actual purchase price for the person. Even better for the criminal businessperson, the about-to-be slave can often be convinced to *contribute to the cost* of their own enslavement, through ‘recruitment fees’ or by absorbing travel costs.

This very low acquisition cost increases the level of profit, and that is important to the slaveholder, not just because they desire high profits, but because most of the tasks for which people are enslaved are the sort of dirty and dangerous work that is not worth much in the labour market. Buying sex, or domestic work, or agricultural labour is inexpensive relative to other jobs even when done legally. So, when it comes to selling the labour product of human livestock, what is lacking in price must be made up in volume - the volume of slave-made goods, the volume of slave-provided services, and the volume of sales of the slaves themselves.

JUST GOOGLE IT

The digitally interconnected world we live in is vastly different to the world of even thirty years ago. The world existed for thousands of years without instant access to knowledge or instant global communication. Nor was there ever a global network of the layers and layers of relationships and businesses and groups that make up the web. The Internet is a revolution in knowledge and connectivity that was, at first, astounding and unbelievable, and then became instantly mundane. It has the answer to thousands of questions, it is the solution to thousands of problems, and it provides the space for creative expression for millions of people (as well as the space for some

people to push some really bad ideas and for the circulation of millions of pictures of cats and other ephemera). Our free and open global internet allows everyone to speak, act, do business, shop, entertain, be entertained, do research, search for a mate, worship, and perform almost every other act people do together or alone. But that openness has a dark side as well. When anyone can do anything, especially in anonymity, some will use the infinite tool of the Internet to troll and harass others, some will lie, some will steal, some will lure the innocent, and some will enslave. Criminals thrive in the darkness of anonymity, and they have adapted quickly to the web.

One aspect of crime we rarely consider is the pressure on criminals to constantly innovate. In the normal world of business, companies compete, and that competition means trying to claim more of the market share, bring out better or cheaper products than other companies, or cut costs of production below those of competing companies. In the world of *criminal* businesses, all these factors apply as well, but with a sinister twist and some ominous additions. ‘Claiming more market share’ can mean assassinating workers from competing firms. ‘Better or cheaper products’ can mean adulterating drugs with poisons, or selling goods that are deadly and dangerous. ‘Cutting costs’ can mean killing suppliers and stealing their goods, or substituting slaves for paid workers. Legitimate corporations may talk about ‘cut-throat’ competition, but in a criminal business failure to compete can mean that real throats really get cut. The result is a pressure to innovate and adapt that simply doesn’t exist in legal commerce.

No wonder criminals are far ahead of both legitimate businesses, legislation and law enforcement when it comes to online enterprise. It is no surprise that criminals were early

and enthusiastic adopters of digital technology. In the pre-internet days, when there were only small disconnected ‘webs’ of people using linked computers to communicate (such as the Advanced Research Projects Agency Network – ARPANET, or the Joint Academic Network – JANET), the total number of users was small. Yet, in 1978 the first spam email was sent on the ARPANET, and as the sub-webs began to join together and extend their reach, the global Internet emerged about ten years later. In 1979, for example, one of the co-authors of this book, working within the JANET, had his data stolen, the perpetrators leaving a ransom note (it didn’t turn out too well for them).

By the early 1990s, when email was primitive, connection was haphazard, and web content thin and idiosyncratic, criminals had already set up shop on the web. Many of the earliest ‘hackers’ were simply pranksters, or people who used tech fixes to make free long-distance phone calls. But in 1994, when the Internet was still in an embryonic state, a criminal group broke into bank accounts of corporations held at Citibank. Accessing the bank through a ‘dial-up’ service, the criminals transferred \$10.7 million to accounts in Finland, the USA, Germany, Netherlands, and Israel. Not long after, the first large-scale email scams began.

The “Nigerian prince” or 419 scam arrived early in the history of the Internet. It was based on a well-known fraud that had existed for at least two hundred years. Notorious in the 19th century as the “Spanish Prisoner Scheme”, this was a confidence trick that offered a large sum of money in return for a small advance of funds that the writer, posing as a reputable, but distressed person, could use to gain access to, and then share, a fortune. In the 18th and 19th centuries this

One aspect of crime we rarely consider is the pressure on criminals to constantly innovate.

was all done with letters, but with email it translated, almost word for word, onto the web. Early web users were especially vulnerable since spam filters didn't exist and everyone was still learning how to navigate the web.

As the number of web users went from millions to tens of millions to hundreds of millions to billions, the 'dark web' grew alongside, and cyber-crime proliferated, as did anti-virus and online security providers who struggled to keep up. And as the uses of computing both online and offline increased exponentially, so did the criminal use and abuse of digital technology and its adaptation to the crime of slavery. While we tend to focus on the more visible types of exploitation, such as the sale of pornography exploiting enslaved people and children over the Internet, information technology supports every step of human trafficking.

HOW TRAFFICKING LEADS TO SLAVERY

Defining Slavery – Slavery is the control of one person (the slave) by another (the slaveholder or slaveholders). This control transfers agency, freedom of movement, access to the body, and labour and its product and benefits to the slaveholder. The control is supported and exercised through violence and its threat. The aim of this control is primarily economic exploitation, but may include sexual use or psychological benefit.¹ Slavery is the status or condition someone is in. It is not the means by which someone has been enslaved (human trafficking, labour exploitation, etc.). For more in-depth reading on the definition please see Appendix I. In this book, the anti-slavery movement is used as an umbrella term that includes all who work against trafficking and labour exploitation.

Moving a person from freedom to slavery tends to follow these steps:

The slaveholder recognises 1. *a context of vulnerability*. Survivors of slavery often talk about how clever and sensitive their slaveholders were in understanding their vulnerabilities and then manipulating them through false sympathy. For many people, especially young people, the conversation that leads to that trap of 'sympathy' begins online. For the criminal looking for potential slaves the online world is like a riverbed strewn with gold nuggets, easy to spot, easy to pick up and pocket. People use MySpace, Facebook, Twitter, Snapchat, and many other social media sites to advertise themselves and give away the clues and hints, the personal descriptions, the emotional posts of longing and approval-seeking, that will make them pliable and open to exploitation. Emotionally insecure adolescents, people both young and old who are looking for work or a way out of a bad situation, and especially those trapped in countries where crime and conflict prevent living normal lives, all see the web as a place to seek help and look for opportunities. The chance conversation, the offer that seems too good to be true, the careful building up of 'evidence' that a person or an offer is honest and legitimate, draw the potential slave deeper and deeper into misplaced trust.

One of the most common ways to lure young women is known around the world as 'the loverboy scam'. Loverboys target girls and vulnerable young women with low self-esteem, unstable home lives, and a lack of parental support. After a first contact and grooming their victim through chatting on the Internet, the loverboy suggests a meeting – the point when recruitment and control becomes possible. For the criminal, this is all in a day's work, and they will have many people they

are enticing and luring through the web toward enslavement at the same time. Practicing the skills of lying and temptation, they become real experts. They won't capture every person, and they may reject some as unsuitable, but as long as there are vulnerable people there will be victims to harvest.

Harvesting begins with 2. *recruitment*. At this point the world of the flesh and the digital world come together. The flattery, the apparent affection, the assurances that have poured through the web have all been leading to a face-to-face meeting. It could be at the office of a 'labour recruiter' in Kathmandu or Bangkok; or a coffee shop in Amsterdam, New York, or Cape Town. If it is a loverboy scam, then the first meeting brings gifts and warm attention. A dream of acceptance and romance is reinforced with declarations of love and gifts and meals out. But once the young woman has fallen for him, the loverboy begins to build the reasons why he must ask for something in return. Some loverboys become physically abusive, alternating attention and caring with violence, keeping their victim off balance. Others frame the act of selling their 'girlfriend' to others for sex as part of their love, arguing "I've done so much for you, can't you do this for me?" Caught in a cycle of brutality and care, isolated and controlled in their smallest movements, for the victim falling into commercial sexual exploitation is a seamless slide, not into a 'job' but into what seems to be a 'relationship'.

For young men, the bait is often the offer of a job, and the recruitment takes place when emails and Internet chat lead to a face-to-face meeting with a labour broker. The broker, like other online criminals, knows that not every person who shows up for a meeting will fall into their trap, but the odds are good enough for solid profits. The well-dressed and clear-

ly successful broker offers advice and opportunity, often over a lovely meal. The offered salary is vast by local standards, and the working conditions reasonable. The broker explains he will take care of all the paperwork, visas, and permits, but the offer of this wonderful job overseas is about to expire so the young man needs to decide quickly. If the possible worker has doubts, there are (fabricated) websites and documents that demonstrate how solid and legitimate the jobs are. The proposed wages are fantastic. Nepali manual workers offered jobs in the Middle East, for example, are promised 55,000 rupees a month – five times the salary of a bank clerk. There's just one catch: the worker needs to pay a fee for all these recruitment services. It's high, around 250,000 rupees, but as the recruiter explains this can be paid off over time from the salary earned abroad. Rushed into a decision, the young man often calls on relatives and friends to share the cost of the 'recruitment fees'. This can put whole families at risk, especially when a piece of land is mortgaged to meet the fees on the assumption that the rich wages will quickly pay off the loan.

Anne Kielland², a Norwegian specialist on child trafficking, has discussed the "lottery" of recruitment into trafficking. Studying a large number of families in West Africa whose children had been trafficked into domestic work, she found that the rare child who managed to escape, get a proper job and return to their village, often became an advertisement for being trafficked rather than a warning. She wrote:

The children in most of the cases agree to go. They have seen children who have returned to the villages having been paid in kind, in the form of a radio or a bicycle. They are impressed by such wealth, and when the intermediaries

return, new recruits will be eager to travel in order to get the same things. In a few cases children do well and come home to the village with modern commodities, and in even fewer they can afford to build a nice house for the parents, showing the entire village how well they have done. Unfortunately, the children normally come back as poor as they left or they don't come back at all. Girls who have been in domestic service often return pregnant. It resembles a lottery. The grand prize is tempting, and the winner gets a lot of attention. The thousands of losing lottery tickets are forgotten, and the expenses may leave the participants ruined. Unfortunately in the case of child labor migration, the price of the ticket is human, fragile, and extremely vulnerable.

However the recruitment occurs, the trap snaps shut with 3. *the removal* of the trafficked person from their home. Normally, at this stage the trafficker begins to exercise much greater control over the victim. Having forced or convinced the victim to leave familiar surroundings, their family and community, the relative power of the victim decreases and the trafficker's power over the victim increases with every step. The protection and support of family and friends are left behind and the victim enters a world controlled by the trafficker. The removal and retention of travel documents soon after departure is a sign that trafficking is taking place; as is the act of locking up the 'workers' wherever they are staying. From the moment a person is isolated and removed from their home or family, their vulnerability increases, as does their confusion as the process of transportation begins.

It is during the period of 4. *transportation* that the abuse of trafficked people normally begins. Aronowitz,³ in her work

as a researcher on human trafficking for the United Nations Interregional Crime and Justice Research Institute, has looked closely at the organisation of smuggling and trafficking operations. She points out that the degree and structure of organisation within the smuggling or trafficking chain can vary dramatically. It can be as simple as a single individual providing a single service - hiding migrants in the back of a truck and smuggling them across a border only to abandon or exploit them once in the destination country. It can be a segmented business involving an interaction between a criminal network and a legitimate transportation company. It can be sophisticated and complex, involving numerous people who provide the entire range of services, and spanning both long periods of time and large geographical distances. In human trafficking, the process of transportation is likely to involve several modes of travel. For example, one study of illegal migrants intercepted in Lithuania found that they had passed through an average of 3.6 transit countries and that their journey had been 'multi-modal' with an average of four modes of transport used. No migrant had covered the entire journey by the same means of transport.⁴

In one case of Nepalis being trafficked into the Middle East, the victims were moved by car, bus, airplane, and a "caravan of jeeps". The process of preparing for and transporting the young men was also used to both exploit and gain further control over them. Though the victims may not know it yet, their distribution as newly enslaved workers has begun, often through deals done by traffickers through the Internet.

Once the transportation is complete, the 5. *establishment of control* begins – the process of true and full enslavement. It may be that the person being moved about has already been

subjected to violence, rape, sleep and food deprivation, the breaking down of both possible resistance and the sense of personhood and will. On the other hand, many traffickers, if they can, will put off this violent introduction to slavery until all travel is finished so that the trafficked person cooperates in their own descent into slavery. For some enslaved people, even the introduction of violence and total control may be gradual, in large part because a person who still retains some hope of being paid or making a new start will work harder and with less need for supervision than someone who is fully brutalised and controlled. Whether it is gradual or immediate, starting with the beginning of transport or falling like a hammer once the trafficked person is secreted away from the public, the control is total. What was a person is now treated as if they are property, there is no free will or freedom of movement, and resisting this enslavement brings a violent response. Whether it has taken hours or months, people have been turned into programmable livestock.

The penultimate stage in trafficking into slavery is the reason driving the entire process – 6. *exploitation*. The use of the slave will only be limited by the imagination of the slaveholder – it might be physical or sexual exploitation or both; whatever work is required is almost certainly to be dirty, dangerous and demeaning. Since the cost of acquiring the slave was relatively low, not much investment will be made in upkeep or safety. Life expectancy will fall dramatically, injury and illness will proliferate, and mental health will be deeply damaged, possibly irrevocably. The exploitation will also vary over time – brick workers will be sold for rape; women, men, and children enslaved in commercial sexual exploitation will be repurposed into cleaners or drug mules, or their organs might be removed

The chances of the best resolution to slavery – freedom, security, and regained health and well-being – are akin to winning the lottery: unlikely, rare, and random.

and sold. Some slaves will be exploited using the dark web – before cameras they will be assaulted and raped, perhaps killed and butchered, while paying customers watch on their laptops from anywhere on earth. Or they might be sold on through the Internet to slaveholders who have other ideas for exploitation.

This is a new aspect to slavery that has come with the digital world. Normally, and throughout history, a slave could be used repeatedly, but only in one place and by one master at a time. But think of a young woman enslaved into sexual exploitation and abuse in pornography on the Internet. This slave can be simultaneously abused and used by tens or hundreds or thousands of people at the same time. This *multiple simultaneous exploitation* of slaves is the newest adaption of slavery. In the technological innovation that brought *hardware* and *software*, slaveholders have introduced what might be called *fleshware* – malleable, disposable, expendable human inputs to criminal online businesses.

Finally, for every person trafficked into slavery there is a 7. **resolution**, an end to slavery. For the vast majority of the enslaved this will be either death or disability. Slaves are fundamentally disposable inputs to criminal enterprises. They have value but that value is relatively low and like other disposable inputs their loss, damage, or death is simply part of the business plan. Many trafficked persons are simply cast away if they are not considered a legal risk. Once so damaged physically or mentally that they are useless and unable to generate profits, they are discarded. In freedom, their situation will only marginally improve since no country or society in the world has developed thoughtful and effective ways to help survivors of slavery to rehabilitate, reintegrate, and find a life

of meaning and fulfilment. A handful of non-governmental organisations and charities have developed such programmes of reintegration, but they are few and underfunded. In many ways, the chances of the best resolution to slavery – freedom, security, and regained health and well-being – are akin to winning the lottery: unlikely, rare, and random.

If the Internet is one of the main paths that leads to slavery in the 21st century, a path that can use and exploit digital technology at every step, has it always been the case that technology and slavery have walked hand-in-hand? In order to answer that question, we need to look far back in human history, to the earliest moments of technology and how humans used their new inventions.

People, Tech, and Slavery

Human history is very much a history of human technology ...

In East Africa, about four million years ago, a small scavenger proto-human that we now call *Australopithecus* faced catastrophe. This diminutive hominid was a victim of climate change. While some people still speak of ‘when people left the trees’ as the beginning of human evolution, the truth is that the trees left us. As the climate changed the atmosphere became hotter and dryer, and the forests of East Africa began to recede and be replaced with open grasslands. It is the nature of evolution that environmental pressure drives change, and these proto-humans lived in a tough environment. Large carnivores ruled on the grasslands, and small apes, without scales or claws (or trees to hide in), were likely easy tasty meals. But evolution is also about *selection* – an increasing biological emphasis on certain traits or capabilities. The stupendous gamble *Australopithecus* made was to bet their continued existence on the selection of two relatively odd traits – bipedalism (walking on their hind legs) and increased brain capacity.

Being able to stand upright makes immediate sense on a grassy plain, as it’s better to see the lion before the lion sees you. But increasing brain power takes a long time, and over a million years passed before early humans began to produce and leave behind the key example of brain power – tools – in the shape of simple stone hammers, choppers, and sharp stone flakes for cutting. These are the earliest surviving samples of

human technology, some three million years old. Their likely use was cracking open the bones and skulls left behind by large predators to get at the rich and nutritious brain mass and bone marrow or using cutters to scrape meat from bones. From being a relatively insignificant species of scavenger apes, more brains and ‘food processing’ technology suddenly allowed early humans to threaten other species, and the human population grew rapidly. As time passed, their technologies improved and proliferated, and by the end of the Ice Ages humans seem to have wiped out most of the large mammals (66 out of 108 species) across North America and Eurasia. It was an extinction event driven by human technology (spears, *atlatls*) that now also included the control of fire. It was a small beginning, but the slow and then rapid growth of human technology allowed us to swarm over the entire planet and become the most successful and deadly species ever.

If our history exploded when we discovered tools, human-written *history* begins with the invention of the first ‘writing technology’ - pens and styluses and writing surfaces such as wet clay or tree bark. It’s important to note that the Sumerians who invented the first systems of writing also built walls around their cities in Mesopotamia. What they wrote within those walls are the first sentences, the first human voices, to reach us from the far past. These 5000-year-old symbols tell us things about their lives that no stone arrowhead or clay pot can express.

And in these earliest human records, explains Daniel Snell, an eminent historian of the ancient world, ‘we find signs that probably mean “slave” and “slave girl”’. He notes that: ‘A later form of the sign for “slave” in Sumerian had a sign for “man” with a sign for “mountain” worked into it, and in fact

42 | many slaves appear to have been caught in the Iranian foothills and brought to the Mesopotamian plain.⁵ Snell adds that there are several ways to refer to slaves in these early records, including in ‘the way animals could also be counted, and it probably was meant to reduce slaves to animals.’

Writing, whether on wet clay, paper, or a laptop, is *information technology*, and one of the first uses of info-tech was to count, catalogue, and control slaves – alongside livestock, agriculture, and the production of bricks, tools, and weapons. In his recent book *Against the Grain*, James C. Scott⁶ explores what the rapidly emerging technologies of agriculture, animal husbandry, wall building, and writing meant for those living at the time. The developing city-states of some 5,000 years ago were dependent on cultivated grains, and needed info-tech to keep records of harvests, taxes, irrigation projects, and workers. The most successful of the city-states tended to be those with the largest number of workers, which takes us back to those first written records for ‘slave’. Wholesale forced relocation of enslaved populations took place, since the concentration of workers was key to building a strong state. Those strong (slave-built) city walls were as much about keeping people in as for defence. As Steven Mithen explains:

Slaves, like today’s immigrants, were used for tasks that were vital to the needs of the elites but were shunned by free men. And slaves, like refugee workers, were gradually integrated into the local population, which reduced the chance of insurrection and was necessary to keep a slave-taking society going. In some early states human domestication took a further step: written records from Uruk use the same age and sex categories to describe labourers

and the state-controlled herds of animals. Female slaves were kept for breeding as much as for manual labour.⁷

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Around 3,200 BCE, as both cities and slavery proliferated, the key technological breakthrough of metallurgy was made. While copper can be easily found and hammered into shapes, it bends easily and won’t keep a sharp edge – but when mixed with tin the result is bronze, which is harder, stronger, and sharper. Many new technologies could be made of bronze, but it is telling that the largest number of surviving examples are weapons. Swords, spears, shields, axes (which had other practical uses, of course), and daggers, point to an arms race at the beginning of human history. Possibly the best example of this race to violent technology is the *halberd*. The halberd is a combination of a spear and an axe; it goes beyond being an extension of the arm, allowing delivery of extreme violence beyond the reach of the adversary. Human conflict and the use of violence to take slaves is a constant theme since the beginning of human records, and this Bronze Age arms race was a perfect example.

But the technologies of the Bronze Age seem to have contained their own doom, leading to what is now called the late Bronze Age Collapse. About 1,200 BCE the city-states, kingdoms, and the collections of written records and temple complexes all around the Eastern Mediterranean, came to an abrupt and catastrophic end. Cities were abandoned after their destruction, and archaeology shows multiple large settlements sacked, burned, and left with unburied bodies. Robert Drews⁸, an expert on the Bronze Age collapse, explains the motivations of the people who destroyed these cities:

44 | ‘One would suppose that the men who sacked Pylos, Ugarit, Troy, and a score of other great centers did so for the booty that these centers held: precious artifacts and textiles, silver and gold, children and women.’

The destruction was heaviest at palaces and fortified sites, and because the attackers left no written records and massacred or enslaved the inhabitants, we know little about the attackers. One clue is a few surviving Greek documents around the Aegean sea, dating to just before the collapse, that report a significant increase in piracy and slave raiding. Indeed, throughout the period of this long catastrophe the attackers are often called simply ‘sea people’. The “Sea People” were less technically advanced than the city dwellers. We can think of them as clever technicians who combined bronze weaponry with another technological innovation of the period – Mediterranean sea-going sailing boats, most probably driven by oars. Did slaves provide the motive power through rowing, as was the case in the latter Roman period? There is no way of knowing, but there is certainly a long history of other slave-raiding groups, such as Vikings, using slaves at the oars.

This pattern of weaponry and other technological innovations being used to capture slaves who then work (or are sold) to enrich the innovators is a pattern that repeats itself over and over through history. The ‘sea-people’ of the Bronze Age Collapse used their new technologies so efficiently and violently that, as the historian Robert Drews points out, ‘Within a period of forty to fifty years at the end of the thirteenth and the beginning of the twelfth century [BCE] almost every significant city in the eastern Mediterranean world was destroyed, many of them never to be occupied again.’⁹ Put another way, *violence technologies* overwhelmed and destroyed the stable economic

infrastructures needed to maintain *information technologies*. At this historical moment the result was a ‘dark age’ – meaning no or very little surviving records – of some 300 years.

IRON AGE

The other key technological innovation overlapping the collapse of the Bronze Age was the smelting of iron. Harder, more durable, able to break or dent bronze weapons, iron meant more power, more tools, and more slaves. The Iron Age was also an age of slavery, marked by instabilities and conflict. M.I. Finley, one of the great historians of slavery, explained that, ‘one of the few generalizations about the ancient world to which there is no exception is this, that the victorious power had absolute rights over the persons and property of the vanquished.’¹⁰ Or, as explained by someone who actually lived in the Iron Age:

Who does not know that the victors keep their property and add to it that of the vanquished, whereas the vanquished lose it all at once, their persons, and the property? The victor can lay his hands on everything at once, men, women, their property, and all their land. It is a universal and eternal law that in a city taken during war, everything, including persons and property, belongs to the victors.¹¹
– Xenophon, Athens, c. 350 BCE

In addition to the iron weapons used to take slaves, the archaeology of the Iron Age is littered with iron technologies to *control* slaves – chains, shackles, locks, gang-chains (for groups of slaves), foot and hand-cuffs, and collars. The trade in slaves was widespread and surviving artefacts of iron technology for

slave control are found in archaeological sites along the trade routes. Iron technology was global – city-states, nations, and empires based on the power of iron existed in Africa, Asia and Europe. These included some of the largest empires in history: the Tang dynasty (700AD), the Timurid empire (1400AD), the Mughal Empire (1690AD), the states of Nok (500BCE – 300AD) and Kush (spanning 800BCE – 350AD) in Africa, and the Roman Empire.

If there is a nearly perfect example of the intersection of technological innovation and enslavement in this long period of human history, it is the deep and constant investment of the Romans in global slavery. In many ways, the Roman economy depended on slaves in the way that the American economy depends on oil today. It was all perfectly legal as explained in the *Digest of Justinian*:

Slaves are called servi because military commanders commonly sell their captives and so preserve [servare] them instead of killing them; they are called mancipia, because they are taken by force of arms [*manu capiuntur*] from their enemies.

– Section V. On Status, Rome, c. 535

Across the long history of Rome, it is clear from existing records that *every* war of conquest generated hundreds if not many thousands of slaves. Over a period of some 800 years there were more than fifty wars of conquest (plus a number of internal or civil wars), and three more large-scale wars fought against rebelling slaves as well – a new war every fifteen years or so. The Roman military and commercial success over such a long period rested on great advances in technol-

In many ways, the Roman economy depended on slaves in the way that the American economy depends on oil today.

ogy, and the adaptation of those technologies to create a vast slave economy. In addition to paved roads, working plumbing and sewers, advances in medicine, and even the publication of newspapers, there were powerful technologies of violence: high-powered spear and dart throwing machines, catapults, incendiary weapons, pontoon bridges, and a high-tension projectile launcher mounted on a horse drawn cart. The Romans mechanised war, with industrial scale slaughter and enabling the capture and enslavement of large populations. Every region, nation, or tribe that was conquered meant a glut of slaves in Roman markets. The records of slaves in the city of Rome show the ever-widening waves of violence – first Greeks and Carthaginians, then Gauls, followed by Germans, Britons, and Slavs, as well as Africans and Middle Easterners. An estimated 30-40% of Roman Italy's inhabitants were slaves.

VIKINGS

Given that this book is supported by a Norwegian think-tank, it seems only right to look closely at how technological innovation and slavery went hand-in-hand in Viking societies in the Iron Age. Steven Ashby at the University of York explains that,

‘The connections between technology, urban trading, and international economics which have come to define modern living are nothing new. Back in the first millennium AD, the Vikings were expert at exploring these very issues. ... Technological innovations such as the potter's wheel and the vertical loom transformed not only the types of products being manufactured in Viking settlements, but also the scale on which they were produced.’¹²

In many ways technological advances were the key that released the Vikings into the larger world and also made them

into slave dealers on a massive scale. At its height, the Viking population is thought to have been between ten and thirty per cent slaves.

The coastline of Norway is beautiful, but it is also relatively inhospitable. Steep rocky terrain, intense winters, and only small patches of arable land made Norway and other parts of Scandinavia a hard environment for the people of the Iron Age. But adversity drives innovation, and from this sparse coastal homeland Viking people expanded outwards, not toward the looming mountains, but into the challenging and infinite sea. The great technological inventions of the Vikings centred on their path to a better life through ship-building, sail and rigging designs, and navigation, transcending Roman maritime technology. Even at the height of Roman technical achievement, their boats still shadowed the coastlines for safety and moved slowly and awkwardly. As Viking ship designs matured and were tested on the high seas, especially when married to the products of vertical looms that produced large and durable woollen sails, cross-ocean distances were shattered. From Iceland and North America in the west to the Volga River in the east and Africa in the south, Vikings were suddenly and swiftly moving people, goods, slaves, and their distinct form of *blitzkrieg* violence around the known world.

It is the nature of technological innovation that it gives a powerful advantage to even small groups that can bring the technology into action. The poet Hilaire Belloc wrote of small numbers of British colonisers conquering large numbers of Asians and Africans in this powerful couplet: “Whatever happens, we have got / The Maxim [machine] gun, and they have not”. A similar description applies to Viking raiders. Viking weapon technology was not elaborate, nor especially

50 | innovative, but the weapon ‘delivery system’ of fast, reliable, easily landed ships filled with raiders meant that the sudden appearance of massed professional soldiers in coastal farming communities and market towns was devastating. Lightning raids were low risk and extremely profitable. The most valuable portable goods, especially slaves, were loaded into Viking ships that quickly disappeared over the horizon before organised resistance could be mounted. The medieval *Annals of Ulster* record ‘a great booty of women’ taken in a raid near Dublin in 821 A.D., and suggests 3,000 people were captured and enslaved in a single attack a century later. Many slaves were sold along the Viking trade routes that stretched from Scandinavia to Gibraltar and on across the Mediterranean, or down through Russia to Baghdad and Byzantium, where ‘exotic’ Celts gained high prices. Other slaves were taken back to Scandinavia to fill labour shortages. Recent archaeological excavations on a Viking farm settlement in Sweden, for example, have found very small houses surrounding a great house in a form that greatly resembles the ‘big house/slave quarter’ arrangement of a slave-based plantation. At the same time, there is strong scholarly support for the assertion that Viking societies practised polygyny (a man having multiple wives) and concubinage (a man having control over, or relationships with, women who are not wives).¹³ Both practices are not uncommon in the history of human societies and continue to exist in several societies today.

There are two reasons why the practice of polygyny was likely to drive both slavery and technological change. Firstly, polygyny tends to limit the availability of women for marriage within a society. If upper class or richer men take multiple wives, then lower class or poorer men have fewer possible

marriage partners. Concubinage only exacerbates the situation by increasing the imbalance between the number of men seeking wives and the number of women available. Raffield et al. argue ‘that a similar imbalance in late Iron-Age Scandinavian OSRs [operational sex ratios] may have contributed to the first Viking raids, which were undertaken largely by young men seeking portable wealth and opportunities to increase their social status...’ In short, many Viking men were seeking both access to potential wives and concubines, and slaves. Secondly, note that today ‘forced marriage’ is a recognised form of slavery, and the women and girls captured in Iron Age raids may have been feeding all three of the different streams of exploitation – slave, concubine, and wife.

A powerful indicator of this practice can be found in the genetic makeup of the population of Iceland. The ancestry of some three-quarters of Icelandic men can be traced to ‘Viking’ genes, but about half of all Icelandic women trace their ancestry to Irish or ‘Gaelic’ origins. This suggests the destination of some of the ‘great booty of women’ noted in the *Annals of Ulster*. And if we think of this as ancient history, it is worth noting that in contemporary China, India, and other countries where sex-selective abortions have significantly altered the operational sex ratio, kidnapping, human trafficking, and organised assaults leading to enslavement and forced marriage are well-documented. Today the human trafficking that markets and sells women into areas with a ‘wife shortage’ tends to occur across borders and is also supported through digital technology.

For Vikings, slaves were crucial commodities fulfilling several needs. Using a unique set of technological and social innovations, and mobilising the financial resources achieved

through trade and enslavement, this small Nordic group spread widely and successfully. Vikings settled into areas where they were trading and became Icelanders, Normans, Russians, and Northumbrians, blending with still other populations in Britain and North Africa. Vikings initiated some patterns of slave trading in these regions, but others had existed for much longer. The trans-Saharan slave trade, for example, dated back to the early Roman period. And if the Vikings ruled the Atlantic seaboard, in the year 1000 there were extensive trading networks stretching east from Europe to India, China, Southeast Asia, Japan, and Indonesia; similar routes extended across the Sahara and along the west coast of Africa to Madagascar and Zimbabwe in the south. All of these routes would have carried high value goods – spices, silk, new technologies, precious metals, and slaves. From the time of the Bronze Age the slave trade had been an international trade, but with the technological explosion of the Industrial Revolution it would become a truly global trade.

SLAVERY AND THE INDUSTRIAL REVOLUTION

The greatest transformation in human history came with the explosion of technology in the 18th and 19th centuries, allowing slavery to become a vast global industry. The new technologies enabled greater power and speed than ever before. Greater power meant greater control, and greater speed meant the destruction of distance. Slavers equipped with industrial power and speed could take anyone into slavery anywhere, and then transport them to distant markets hungry for labour. The large-scale capture and transfer of slaves then fed larger enterprises that generated more technologies and great wealth that further concentrated power and reach.

Some of this revolution was driven by climate change. Extreme weather threatened most of the world's societies in the 17th century, as crop failures, famines, and extreme cold pushed communities to the brink. The crisis drove violence, and across the planet, societies were torn apart in civil wars over who would control land and resources, and who would dominate political, cultural, or religious life. Slavery was part of all of these conflicts. The 30 Years War that convulsed Europe is characterised as a conflict between Protestants and Catholics, but both sides used slavery as a weapon and a tool of war – captured slaves were servants, workers, and given out as the spoils of war. While Europe suffered both a '100 Year War' and a '30 Year War', conflict in China was common and constant and in China the plunder of war included slaves. When the Mughal armies failed to take Afghanistan in 1647, so many Indians were taken into slavery that their price fell by two-thirds in the Central Asian slave markets.

The situation in Africa in the 17th century is not well documented, but years of war combined with drought pushed societies into migrations that brought them into conflict with other groups. Slaves began to be taken for use as soldiers rather than workers, building into much larger armies that fought over larger areas and took still more captives. Some historians have called this a 'military revolution', not least in that it generated an arms race in Africa through which slaves were traded to Europeans for firearms. More firearms made possible greater military success leading to the capture of slaves who could be traded for more weapons. This vicious cycle fit neatly with a rapidly growing demand for slaves to work European sugar plantations in the Caribbean and the exploitation of the Americas. The result was the Transatlantic Slave Trade.

Like the Vikings before them, the British, French, Dutch, Swedes and others brought new ship building technologies and a rapidly improving science of navigation to both conquest and the global trade in slaves. The great power of these European states was both the technological power and the *speed* of technological innovation and change. By the end of the 17th century some two million men, women, and children had been captured, enslaved, and shipped from Africa to the Americas. By the end of the Transatlantic trade in the late 19th century, a total of 13 million people had been transferred by force across the Atlantic, many being fed into an agricultural/industrial process that was in turn the outcome of a single technological innovation – the cotton gin.

The Southern states of the new United States, like most other countries, still allowed legal slave ownership at the beginning of the 19th century. By 1800 there were some 700,000 slaves in United States, mostly in the South, but representing only about 13% of the national population of five million. After Eli Whitney's patent for his 'cotton gin' (which removed the seeds from the cotton boll fibres much more efficiently), cultivating cotton became extremely profitable. With the cotton gin, more labour could be assigned to cultivation, meaning cotton could be produced on a much larger scale and processed for shipping more cheaply and quickly. Given that the Industrial Revolution in Great Britain was especially centred on making cloth and clothing, the introduction of much cheaper American cotton spurred industrial growth. The result was a cycle of technological innovation linking agriculture, ginning, spinning, weaving, and clothing production that revolutionised the design and wearing of clothes, and created a truly global market for English and European textiles –

a dramatic change that rested on the backs of slaves. Farmers in the Deep South became very rich, the price of slaves was pushed higher, and great forests were cut down to make way for vast cotton plantations holding hundreds of slaves. Slave breeding became highly lucrative as well, and by 1860 4 million out of a population of 32 million Americans were slaves. Another 4 million textile workers in England (out of a total population of 21 million) were dependent on the 900 million kilos of cotton flowing from America each year. When the American Civil War ended slavery, local governments in the Deep South resorted to a fraudulent legal system that re-enslaved hundreds of thousands of African-Americans¹⁴ in an attempt to maintain the high profits from cotton.

The industrial revolution provided many tools supporting and incentivising slavery, of which the cotton gin is just one example. But the industrial revolution also made possible a second global transformation that deeply affected not just slavery but our technologies, our lifestyles, and our future – an unprecedented explosion in the number of human beings over a very short period of time. This population explosion, in addition to other factors, fundamentally altered slavery, radically changing its economic underpinnings after 5,000 years of business as usual.

PRICE AND VALUE

Across history the price of slaves, like other commodities, varied with supply and demand. The few surviving records of the Roman slave trade show price fluctuations linked to wars of conquest (soldiers were often paid in slaves at the end of a campaign) or other events such as a slave revolt. But a key finding in the economics of slavery is the relatively high

cost of slaves for most of human history. As noted in the first chapter, when we were exploring how both animals and people could be tools, it was Aristotle who said: ‘The ox is the poor man’s slave.’¹⁵ Before the industrial and technological revolution brought steam power, the greatest physical motive forces would utilise leverage or large animals or both. From constructing cities to ploughing fields, people relied on oxen, water buffalo, or in a few places, elephants, to shift great weights. But while oxen were key to heavy lifting, they needed constant attention, guidance, and care. Slaves were very weak in comparison to oxen, but they could understand leverage, remember and carry out complex repetitive tasks, and even adapt and correct their work to meet changing conditions. The simple fact that demonstrates the relative worth of slaves and oxen is that, for most of human history and across many cultures, the price of a single slave was equal to the price of four or more oxen, hence Aristotle’s quote.

In addition to their functional value, slaves carried other attributes that added to their cost and value. The first of these was acquisition cost. There are and were fundamentally three ways to acquire a slave – through commercial means, capture, or through the birth of a new slave to your existing slave. Commercial means included, for example, buying a slave, receiving one as a payment or as a gift, or as an inheritance. But like other livestock, the need for feeding, transporting, and otherwise maintaining slaves added to their ultimate market value. Capture included costs as well, not least that the potential slave would resist. Large-scale military expeditions were (and are) extremely expensive, and needed large-scale slave captures to justify the expense of making war. And breeding new slaves, while less risky in terms of resistance or shipping,

If slaves were once a profitable investment, like other capital purchases, they are today valuable only in their immediate functionality, and once used are often treated as disposable.

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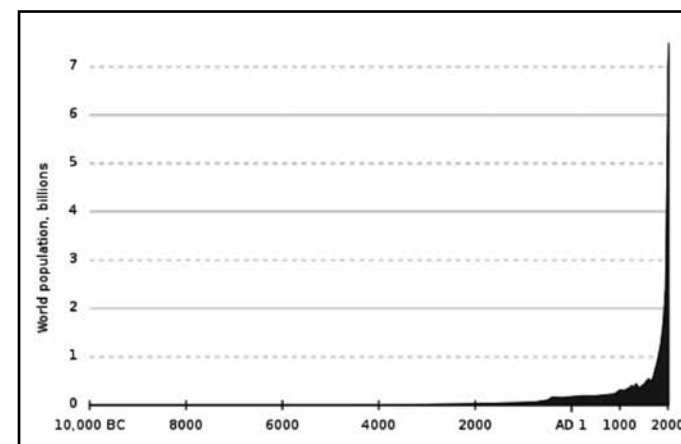
required upkeep expenses over several years before the slave was old enough to be useful and thus had market value. The key point here is that in addition to the unique capacities slaves brought to their work which increased their value, their price was further increased by transport, often over long distances, the cost of maintenance, plus additional aesthetic values that would add to market value such as appearance or special skills or being perceived as exotic. The result of these cultural/economic factors was that, for most of human history, slaves were expensive relative to nearly all other livestock or goods that could be purchased. And that high value on the slave market made it worthwhile to transport them for long distances, to invest in breeding slaves, provide for their care at least as you would for other livestock, and in some cases, insure them against injury or loss.

There were, of course, exceptions to this high value and cost of slaves. If conditions were such that infants seemed unlikely to survive, it was good business to *not* invest in them. Likewise, old or infirm slaves seen as not productive enough to cover their cost of maintenance would be dumped or killed to reduce overhead costs. There were also deadly or dangerous jobs that would only be given to slaves who were considered reasonably expendable. Mining silver, for example, was a mainstay of the economy of the Greek city-state of Athens, but mining was dangerous and many of the linked minerals, like lead, were poisonous. The result was that more expendable convicts or rented slaves might be used to lessen the loss of capital invested in a slave if the mining work killed them.

This fundamental pattern of the high cost of slaves throughout human history ended abruptly in the 20th century as a result of population growth. Put simply, it took about

12,000 years for the world population to increase from approximately 10 million people in 10,000 BCE to 2.5 billion people in 1950 AD. But from 1950 to 2018 another 5 billion were added to the world population, which on the day this is being written stands at 7.648 billion. The following chart shows population growth since 10,000 BCE.

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The result is a global glut of human beings so large that, following the law of supply and demand, the economic value of slaves has collapsed. If slaves were once a profitable investment, like other capital purchases, they are today valuable only in their immediate functionality, and once used are often treated as disposable. If slaves in the past were essential to support economic and technological growth, they are now fundamentally impractical and insignificant in global economics. This does not, however, lessen their appeal to criminals, whether the slaveholders are individuals, groups, or nation-states. Cheap and disposable human inputs to criminal economic activities are still attractive.

SLAVERY AND TECHNOLOGY IN THE HISTORY OF THE PRESENT

If the original Industrial Revolution armed both slave-takers and slave masters, subsequent 'industrial revolutions' increased the power a person could exercise to take and hold slaves. The use of electric power to create mass production is sometimes called the second industrial revolution. But how has the introduction of electric power and mass production affected slavery and the existence of enslaved people? The answer to this question is both positive and negative. Mass production led to a much higher standard of living, and a much lower demand for slave labour, especially in the extractive industries like mining or timbering. The great leap forward in production supported the end of slavery in many of the most basic and exploitative jobs. Coupled with the exploding global population, the proportion of slaves in the human population fell dramatically, but slaves were also reduced in economic value making them imminently disposable and not worth investing in their care. This is the basic situation of slavery in the world today.

This book specifically addresses a further question. Many would identify a third industrial revolution from the 1970s in the way that electronics and information technology have automated production. How has automatic production affected slavery? And how has information technology influenced the trends of slavery worldwide? Certainly, a key outcome of our new digital world is increased globalisation – and while slavery may have been one of the first global businesses, it is very dramatically more globalised now when slaves can be bought and sold through the web from anywhere to anywhere, as well as exploited online from anywhere on the planet.

All of us are now living through a fourth Industrial Revolution, one that uses electronic and information technology as a springboard. We stand at the beginning of the 21st century digital revolution. It is characterised by a mix of technologies that are removing the boundaries between the physical and digital spheres. There are revolutions underway in the world's economies, in how we are governed, in how we are educated, in how we organise and live in our families, and even in how some of us worship and understand the natural world and the philosophical foundations of life. We, and the slaves of today, are both the fuel and the product of that revolution.

Enslaved on the World Wide Web

*Technology itself is neither good nor bad; nor is it neutral.*¹⁶

M. Kranzberg, Professor of the History of Technology at the Georgia Institute of Technology

Around 2011, the organisation Terre des Hommes, an international children's rights organisation with headquarters in the Netherlands, started noticing a change in the modus operandi of the human trafficking practice in the Philippines – a shift from selling services at live venues such as streets, parks, the harbour area, bars, hotels, restaurants and discos, to the use of live streaming as a market place. On every street corner, even in more rural areas, one can find Internet cafés, often a little shed with an old computer. These very cheap 'peso-peso machines' provide access to the Internet for \$0.20 per half hour. They are available 24/7 with no control on who uses them and for what. Young girls forced into prostitution, often 15, 16 or 17 years of age, use the Internet to establish contact with foreign men. The men, often referred to as sugar daddies or boyfriends, pay for live sex shows performed in front of webcams. Because of the Internet, these performances can be located anywhere, and so can the perpetrator.

THE WORLD WIDE WEB OF SLAVERY

"Many of our technology-related problems arise because of the unforeseen consequences when apparently benign technologies are employed on a massive scale. Hence many technical

applications that seemed a boon to mankind when first introduced became threats when their use became widespread".¹⁷

So writes professor of the History of Technology, Melvin Kranzberg, in a journal article in 1986 titled "*Technology and History: "Kranzberg's Laws"*". The Internet is one such technology that has become widespread. The number of Internet users globally has more than tripled since 2005 and now includes nearly half the global population.¹⁸

By the end of the nineties the Internet grew rapidly and with it grew a need to secure the increasing amounts of data being shared at a fast pace over the networks. This sparked the development of digital cryptography. According to the Oxford Dictionary cryptography is defined as "the art of writing and solving codes". Encryption does exactly that: it converts information such as a text message into code, which can only be converted back to the readable message by the person who has the original key to the code. This way only authorised parties can access the information. Despite being an important development and a safety feature of today's Internet, it also created the dark web.

The Internet can be roughly divided into three layers: the surface web, the deep web and the dark web. The surface web is the collection of websites accessible to search engines, and what most of us use daily. Beneath this surface is the much larger deep web, which refers to all information that is out of the reach of search engines. Online banking, videos-on-demand and email accounts are all placed in the deep web. Hidden in this deep web of encrypted data, you also find the dark web, a virtually untraceable network accessed only through special encryption software. One such widely used program is Tor.

The core encryption technique used by Tor, onion routing, was developed by computer scientists in the nineties to protect US intelligence communications. It is an anonymisation tool that sends the data through a random set of encrypted connections, allowing anyone to communicate without the risk of the message being tracked back to them. The dark web gathers all sorts of criminal activity, but that does not mean that Tor, onion routing, or other encryption techniques are a bad thing. They can also provide protection, giving safety to whistle-blowers and protecting national intelligence by locking key information away behind encryption. Nonetheless, the dark web does facilitate a wide range of crimes, and human trafficking is one of them.

The dark web is only one of many digital technologies used in human trafficking. A pioneering research on the human trafficking technology nexus by researchers of the “TRafficking as A Criminal Enterprise” (TRACE) project found that many forms of digital technology are used for the recruitment and facilitation of human trafficking, including: adult entertainment websites, advertising, applications, computer games, the dark web, e-mail, online dating sites, online forums, peer-to-peer networks, and social networking sites.¹⁹ Advertising online, for example, has become an essential part of the facilitation of sexual exploitation, and the Internet has made it easier for traffickers to reach their audience. According to a survey conducted by Thorn, an organisation devoted to digitally defending children, 63% of child sex-trafficking victims were advertised online, and 42% of sextortion victims met perpetrators online.²⁰ Sextortion is a form of blackmail in which sexual information or images are used to extort sexual favours and/or money from the victim.²¹ This all plays into the big business of child pornography, from now on referred to as

child sexual abuse imagery, which Thorn describes as “content that depicts sexually explicit activities involving a child [...] and are most often documented with the purpose of being shared widely for others to watch, and in so doing, victimises the child many times over.”²² The reality is that children, some as young as infants, are being sexually exploited in front of a web camera and abused online repeatedly.

In the Philippines, Terre des Hommes was noticing this trend as well. Typically, these children came from less urban environments and from poorer communities. The abuse was taking place in the family homes, and was inflicted on them by their own families with the intent of making money. This practice was the main source of income not just for their closest family members, but also for their whole neighbourhood. Some of these children were younger than four years old. Younger children were valued more highly to the buyers and there was a premium for videos with the use of violence. These families were persuaded to violently abuse their very youngest children while being filmed by foreigners through a web camera. Terre des Hommes started an investigation into the phenomenon. Hans Guyt, director of Special Projects and Campaigns at Terre des Hommes says in an interview that:

With the increased Internet availability, Webcam Child Sex Tourism (WCST) is a rapidly growing phenomenon. In 2011, Terre des Hommes and its partners in the Philippines estimated that hundreds of children in Cebu City (2nd metropolis after Manila) alone were involved in WCST. Now, less than 6 years later, best estimates show that thousands of children are involved in this sinister practice, demonstrating again the epidemic proportions of this phenomenon.²³

According to an estimate by the FBI and the United Nations there are 750,000 people looking at child sexual-abuse material on the Internet at any given moment.²⁴ There is reason to believe that much abuse is taking place in the Philippines, but who are the criminals and where are they located?

THE BERGEN CASE

In 2014, a 65-year-old Norwegian man living in the city of Bergen ordered several live-stream videos of children in the Philippines. The children had to perform sexual activities on demand while being filmed. The perpetrator would record or acquire help in recording films that would later be edited into films for more widespread showing. Parts of these videos were later sent to at least forty Norwegian children under the age of 16 that he met online via chat rooms, Snapchat, MSN or Skype with the false identity of a 13-year-old boy. The police found 42 Skype recordings of the kids in the Philippines with a total duration of 17 hours and 49 minutes. In addition, they found 199 films recorded with a mobile phone lasting 21 hours and 26 minutes. He also had thousands of images and other films with a total duration of 203 hours. All victims were minors, most of them between the ages of 10 and 12 years old.²⁵ In December 2016, he was sentenced for several offenses including Gross Human Trafficking. The case shows that it is possible to enslave young children in the Philippines without having to travel to the Philippines. One man living in Norway could arrange everything from his own apartment with basic technology.

The police reported the following hardware in his apartment: one Samsung notebook, three external hard drives with USB cable, one Samsung S4 phone, one 8 GB USB stick, other

**Through online distribution,
slaves are being simultaneously
exploited by people from all over
the world, sitting at home with their
personal computers.**

USB sticks, one DVR camera, one DVR camera with moving sensors and USB cable, one Hewlett Packard PC, and one Lenovo PC – none of this is high-spec equipment, his total investment was low. With these simple tools he could order and record live stream sexual abuse via Skype in a foreign country, and then use social media to connect with other minors to distribute the material. Through online distribution, slaves are being simultaneously exploited by people from all over the world, sitting at home with their personal computers.

LAW ENFORCEMENT VS ONLINE SLAVERY

The introduction of the Internet as a tool for enslavement has brought new challenges to law enforcement and the justice system, many reflecting that slavery is not merely a national problem and that technologies are rapidly developing. The international dimension of human trafficking forces police in different parts of the world to collaborate. Working together has proven extremely challenging due to language barriers, differing juridical systems, and cultural differences. Culturally, Norway is very different from the Philippines, and even though both countries have ratified the same trafficking protocols, the protocols are not always enforced nor function in the same way. In the Bergen case, the Norwegian investigators struggled initially to get the Filipino police interested in the case. Only after seeing videos presented by the Norwegian police, did the Filipino police decide to open a case themselves against a woman and a man related to the abused children. It was through this investigation that the Norwegian investigators got important evidence for their case in Norway. Eventually the Bergen case became an example of a successful collaboration despite cultural challenges. However, its outcome is the exception to the rule and not representative of most cases today.

One challenge police often face when investigating a case with international law enforcement colleagues is that human trafficking cases are not always recognised as such – rather, they are investigated as cases of sexual abuse, violence or financial crime. This is largely due to a lack of knowledge on the unique characteristics of human trafficking and this is a major obstacle to ending slavery. For the Norwegian investigators, it was clear that the Bergen case was in fact a trafficking case. They recognised the signs because they had been trained to distinguish human trafficking cases from other non-slavery cases. Such training will be important for law enforcement worldwide if the coming wave of web-driven human trafficking cases is to be stopped.

Retrieving evidence from other countries can also be a challenge due to the time-consuming process of obtaining legislative permission to retrieve the information. For example, when traffickers use social media to post pictures or messages online, this information can be vital to police officers investigating the case. The challenge is in acquiring the evidence in an efficient manner. Since most of the social media giants, such as Facebook, Instagram and Snapchat, are located in the United States, a request has to be sent to a US court that must decide if personal information should be given to the police. Then Facebook or Instagram can be contacted to request the information. This takes a long time (up to six months) making it an inefficient means of collecting evidence. Unfortunately, many of the routes police must take to investigate digital crimes are inefficient for various reasons. Tracing digital fingerprints is a good example of the challenges. We all leave traces when we navigate online, whether it is a picture, a message or our IP address. These fingerprints form a trace and from it much information can be gathered about us. Law enforcement use this

to identify criminals, however such traces are not left exclusively on social media sites; almost every move online leaves a trace. As a result, there are a vast number of fingerprints to follow, and finding the right ones is time-consuming.

Of particular interest to the police are national registries of IP addresses. An IP address is a unique string of numbers that identifies each computer connected to the Internet. These addresses can be critical to an investigation, both for mapping out the case and as evidence for the courts. Whether a country stores IP addresses is decided on a national level. Some countries, like Norway, only store the IP addresses for a maximum of twenty-one days, while other countries store them much longer, 6 months or more. The UK stores IP addresses for up to one calendar year. This great difference in ‘storing policies’ amongst the most developed countries in the world can impede an on-going investigation. In many cases twenty-one days has proven to be too short for law enforcement to finish a proper investigation, leaving police unable to benefit from the registers. By the end of the twenty-one days the evidence is gone along with any viable information. The issue is not unique to slavery and human trafficking, but faced by all investigations of online crime.

An international standard for storing IP addresses would be of tremendous benefit to law enforcement, but has proven extremely difficult to put into practice. In 2006 the European Union implemented the “*Data Retention Directive*”, which obligated all member states to save all citizen’s telecommunications (including IP addresses) for at least six months. It sparked a huge debate throughout the union, and the European Union’s Court of Justice finally declared it invalid in 2014 for violating fundamental rights. To what extent is it

acceptable for a state to compromise the privacy of the general public in order to catch and imprison criminals? The debate is ongoing.

Some of the challenges the police face when gathering evidence are more technical. It is almost impossible to find evidence in cases involving live streaming, such as the Bergen case. Live stream leaves no trace of its content. When the stream stops, the data is gone and with it the evidence as well. Thomas Ranum, Investigation Supervisor of the Norwegian National Criminal Investigation Service (Kripos) and investigator in the Bergen case, said in an interview that: “because the perpetrator himself stored the live streaming it was possible to identify the victims and use the information as evidence”.²⁶

Live streaming might seem like the perfect loophole for criminals wanting to avoid leaving any substantial evidence of their activities online. However, Thorn stated that “child sexual abuse images and videos are most often documented with the purpose of being shared widely for others to watch”, which indicates that perpetrators do in fact record the live stream in most cases.²⁷ This suggests that large amounts of recorded live streaming abuse are stored on computers around the world and that a plethora of these videos could be discovered if properly investigated.

The amount of data to investigate has risen drastically in the past years. These immense quantities of data are also referred to as ‘big data’ and require specialised searching techniques. Some of these techniques such as crawling, web-scraping and data-mining are already being tested and used to combat human trafficking.²⁸

DATA SEARCHING TECHNIQUES

Some basic techniques are used as investigative tools to mine through large amounts of data: *crawling software* systematically searches through large data sets, downloading them from the deep layers of the web and open sources. *Web-scraping programs* extract data on any scale, from a database or local machine, and sometimes also from the Internet, and *data-mining programs* search for patterns in large data sets.

Still, the reality is that digital technology is developing so rapidly that there is hardly any time to implement new technology fast enough for police to use it. This is because new technologies first need to be officially approved for use, which takes time due to legislation and bureaucracy. Once approved the process of training the officers and implementing the technology starts. This is simply not fast enough and police have no choice but to lag behind the curve. It creates a big gap between the forefront of technological development and the public sector. Europol's 2016 assessment on cybercrime urges that "Law enforcement needs to have the tools, techniques and expertise to counter the criminal abuse of encryption and anonymity" and "given the rapidly changing nature of cybercrime and the pace at which technology evolves, there is a need for a more adaptive and agile approach to research and development, including funding opportunities, with a view to delivering relevant results in a more timely manner."²⁹

Public institutions simply cannot keep up with new trends in nanotechnology, artificial intelligence, medical informatics, biotechnology, sensors, Internet, robots, and drones.

The question is whether that should be their responsibility. If other companies and organisations can do this work for them, then they are just a collaboration away from game changing developments in anti-slavery work.

NETCLEAN

In 2002 Christian Berg from Sweden picked up the newspaper and read about the rising trend of digital platforms used for child sexual abuse imagery and the challenges it posed to law enforcement.³⁰ To collect evidence, officers had to search through vast amounts of photo material, which was very time consuming and inefficient. In addition, a psychological strain was put on officers going through the disturbing material.

Together with three other co-founders, Berg created a database, based on data from the police, using unique algorithms and hashing technology giving the image a unique fingerprint known as Photo DNA. The software automated the process of searching through the images, making it much faster and at the same time allowing officers to gather evidence without having to look at the photos directly. This developed into the organisation NetClean Technologies, which in 2015 was moved to a peer company called Griffeye. Griffeye offers their core analysis tool for free to law enforcement agencies. Today NetClean is focused on providing solutions for businesses and organisations to stop sexual-abuse material from being handled and spread within their IT environments. They research and develop technical solutions for fighting child sexual abuse and the spread of such material in collaboration with partners and police authorities.

NetClean estimates based on their data that "1 in 1000 people look at child sexual-abuse material while at work [...]"

the work computer being their most private piece of hardware.”³¹ NetClean shares this statistic to draw attention to the fact that online slavery is not limited to off-work hours and locations. The workplace becomes therefore an important area to combat such practises. Businesses offering personal computers to their employees must take action in order to eradicate child sexual abuse from within their organisation. NetClean offers software to help workplaces deal with these types of issues. One of their programs works as an antivirus-like program detecting child sexual abuse images and videos on a computer. It detects whenever child sexual-abuse material that has been classified by law enforcement is handled on a computer, no matter whether it has come to the computer via USB flash drives, hard disks, e-mail, or Internet traffic, and lets the employer know via an alarm if there has been a hit. In the case of a hit, NetClean provides an action plan for the employer on how to handle and respond to this information. Since most people will have a job during their lifetime, the work place is a key area for fighting online slavery and a key group to target.

Parallels can be drawn between their research and the findings by Terre des Hommes. The link is that many of those who watch child sexual-abuse material also actually abuse children. NetClean also discovered the trend of younger-aged children and infants being abused and exploited online, accompanied by an increased use of violence. Digital file sharing is the most common method of sharing child sexual-abuse material, either through the dark web, social media, instant messaging or cloud-based services like Dropbox, Google Drive or iCloud. NetClean has therefore invested efforts in researching and developing innovative technology to combat

the viewing, sharing and downloading of illegal files. This is more than one isolated issue of slavery, but a massive international problem that affects the most innocent and helpless population of the world.

SWEETIE, NOT YOUR TYPICAL GIRL

Terre des Hommes, in response to the trend in the Philippines, sparked debate by creating a “sting” operation trapping offenders with digital simulations.³² The immense growth of cybersex in the Philippines was alarming to Terre des Hommes. To learn more, they decided to shift their focus to the demand of WCST. How big was the demand, who were the people who committed these atrocities, and how did they establish contact with children? To get this knowledge they created a young girl called Sweetie in 2013. A technology called motion capture, provided by the Amsterdam based organisation *MOTEK*, which digitalises body movement and facial expressions, proved helpful. Through collaboration with them, an animated, computer designed avatar controlled by operators could get in touch with predators on the Internet: Sweetie was born.

Four research operators surfed the Internet as Sweetie for a period of 10 weeks, covering different time zones, working at different times of the day over a wide geographical area. They found demand everywhere. Identification of the predators was surprisingly easy. The predators considered themselves safe, anonymous, and untouchable on the Internet. Without hesitation, they volunteered information such as Skype addresses, Yahoo accounts, and in many cases email addresses. Screen shots were compared to Facebook pages to conclude the identification process. It required no hacking, no pressure, nothing illegal. Over a period of ten weeks, the researchers were

approached by over 20,000 individuals seeking contact with Sweetie, and they managed to identify 1,000 predators, 999 men and 1 woman, from 71 countries. Their dossiers were handed over to Europol's headquarters.

One Australian man from Brisbane was grossly inappropriate in the chat conversation with Sweetie. Information on this man was then given to the Australian Federal Police. Further investigation revealed that this man was already on their register of people convicted of sexual offenses with children. They went to a judge, received a house warrant, took his computer, and discovered that it was full of child sexual-abuse material, including the chats with Sweetie. During his appearance in court, he was charged with attempt to abuse Sweetie. The defence argued: "There was no child, it was no human, it was a digital animation". The judge found the defence's argument irrelevant. The client assumed Sweetie was a real human, which sufficed for conviction. The Australian court's ruling was a huge development in the fight against online child sexual abuse.

Terre des Hommes does not have an overview of what has been done with all the files they delivered to different law enforcement agencies, but in addition to the Australian case they have been informed of some outcomes. Arrests and convictions have taken place in countries around the world. Australia has filed three cases; Belgium and Denmark have nine cases filed and three convictions, including an ex-police officer. Most importantly, raids have taken place all over the Philippines and hundreds of young victims of cyber abuse have been rescued. New legislation is under discussion, law enforcement mandates are under review in several countries and attention on online child sexual abuse has increased not

Given the enormous nature of the demand for Internet sex with children, it is widely acknowledged that we cannot arrest our way out of this problem.

only on national levels, but also internationally, including among significant international bodies such as the United Nations, Europol and Interpol. The Dutch laws have recently been modified to allow law enforcement to apply technology such as Sweetie 2.0 to arrest and convict perpetrators seeking to engage children in sexual activities.

Both Terre des Hommes and NetClean agree that proactive intervention, preventing abuse before it is committed, is the way forward. The typical visitor to these chat rooms is 'just curious', and is not usually a physical abuser himself at this stage. However, when the interest of just checking out the website turns into downloading images and videos, and into an obsession of collecting and storing, then physical abuse of a victim becomes very likely. To intervene online, informing and reminding people still in the early stages that these are cruel and illegal practices is essential.

Guyt from Terre des Hommes emphasises that no other approach exists.

"Given the enormous nature of the demand for Internet sex with children, it is widely acknowledged that we cannot arrest our way out of this problem. Successful prosecutions are still rare and such processes face complicated legal and technical issues and require intense international co-operation given the fact that the victim is in one jurisdiction and the perpetrator in another. A new approach, preventive in nature is therefore justified, feasible and urgently needed. Pro-active intervention before crimes are committed entails: patrolling public spaces on the Internet, discouraging, cautioning and warning potential perpetrators".

A STEP FURTHER: ARTIFICIAL INTELLIGENCE

The first Sweetie worked with four human operators. Terre des Hommes decided to bring this to a larger scale by letting Sweetie be operated by artificial intelligence, and created Sweetie 2.0. Sweetie 2.0 uses online robots that are able to keep a chat conversation going. When the conversation becomes more sexual, the robot can analyse what the person's intentions are by determining if: 1) they are aware they are speaking to a minor, 2) they are wanting sex and 3) they are willing to pay for it. If these three criteria are met, the robot will try to identify the person with whom they are 'chatting'. These three criteria may not fulfil the legal requirement that would lead to an arrest, but predators can receive a warning that could potentially stop their behaviour.

Sweetie 2.0 will test if this is possible: can they stop these perpetrators by warning them online? Terre des Hommes' goal is to demonstrate that a pro-active approach will work successfully. Guyt says:

"Terre des Hommes the Netherlands, in co-operation with IT experts, forensic psychologists and law faculties of several universities is developing specialised software, so-called chat-bots and several computer-generated avatars to achieve the goal. Teams of statisticians will analyse the results of this undertaking and demonstrate its impact, which, in the estimation of experts, could be substantial. After the software has been made fully operational and the results of the impact study published, the package will be made available to international law enforcement to intensify its efforts to deal with the online sexual exploitation of children."



The Philippines show a positive trend in that perpetrators of WCST cases are more often charged with trafficking offenses rather than child sexual abuse. The punishment for trafficking is more severe than for child sexual abuse and additionally removes the option of being released on bail. A person who is arrested on grounds of child sexual abuse or child sexual exploitation could pay their bail, get out of prison, and go directly to their victims to offer them money to drop the case. The human trafficking law leaves no such possibility, since bail is not possible. The resulting sentences given to online abusers have grown in length, and are now between fifteen and thirty years. This is a tremendous difference when compared with prosecution statutes in Europe, where trafficking cases are often considered as corruption of the child, grooming, and child sexual abuse, but do not actually convict on human trafficking charges. This is what made the Bergen case unique, and why it gives hope for the future. Hopefully, European law enforcement will learn from their Filipino and Norwegian colleagues, enforcing human trafficking laws on human trafficking cases that include digital technology.

The story of NetClean and Terre des Hommes are examples of how the public sector can join hands with the private sector in anti-slavery work. Organisations like these do research, contribute skills, create technical tools, and provide knowledge to make the work of law enforcement more efficient. Although the idea of collaboration is nothing new, it is

quite new for police to let tech-businesses and social innovators take part in creating the necessary solutions.

The United States based organisation Thorn, mentioned previously, has developed a web-based tool called Spotlight³³ that uses an understanding of digital fingerprints to assist law enforcement in investigations by identifying online human-trafficking victims faster. The tool is offered for free to the police, creating a solution for the massive amounts of data they would otherwise have to mine through in order to find potential victims. Cross-sector collaborations are not only found between law enforcement and tech companies, but also between NGOs and tech companies. The anti-trafficking organisation Polaris³⁴, for example, has collaborated with Palantir Technologies to develop a text hotline that enables victims of human trafficking to contact Polaris without having to make a phone call – which is often difficult if not impossible to do for a human trafficking victim. Such collaborations are a much-needed development that governments must support and finance as they offer new means of understanding and more effectively combatting slavery world-wide.

Isn't there an app for that?

Technology is a useful servant but a dangerous master.

Christian Lous Lange. Norwegian historian
and political scientist

When in need of a quick solution, many utter, “*Isn't there an app for that?*” Mobile applications have taken over much of our lives after the introduction of the smartphone. The total number of mobile app downloads by June 2017 from the Apple App store was 180 billion.³⁵ Among the top ten most popular apps are Facebook, Youtube, Snapchat and Instagram.³⁶ As seen in the story of Rebecca, it is precisely these social media apps that are used by traffickers to groom and lure teenagers into dangerous situations that can lead to exploitation. However, it is not only traffickers who use apps to achieve their ends. The anti-slavery movement has taken on the task of app development to educate the general public and assist law enforcement with the goal of freeing people from enslavement. A good app comes from a good idea, knows its audience, is easy to find and often does one thing really well. But while there are apps that really contribute to society, creating an app might not always be the right solution.

THE MULTITUDE OF ANTI-SLAVERY APPS

In August 2018 there were more than 50 apps available in the App Store and the Google Play Store aimed at addressing slavery in some form. By the time this book is published, even

more apps will have appeared. What is an anti-slavery app you might ask, and who makes them? The most important question is: how successful are these apps at addressing slavery?

There are many different types of apps. The first category is a typical reporting application that allows the user to report incidents of human trafficking. These apps often come with lists of red flags to help the user recognise the signs of trafficking, and they ultimately connect you to a slavery or human trafficking helpline where specialists will investigate further. Other applications are focused on raising awareness, offering an educational tool with references to different resources and helplines. Some of these educational tools come in the form of games that make it is easier for young people to understand situations in which trafficking might occur. Other apps aim to raise awareness not only among the general audience, but also among workers that travel abroad, or may be in vulnerable situations. These applications often come in different languages and provide an overview of workers' rights, links to resources for help if needed, and general tips on what to pay attention to when working overseas.

A very different type of application helps consumers become aware of slavery in a supply chain - clothing, tea, electronics - and provides ways to become active and raise one's voice on these issues. In addition, there are historical applications that share stories of slaves of the past, mainly located on plantations in the United States, offering guided tours through the eyes of a former slave. Lastly, there are applications especially developed for law enforcement and first-line responders, exemplifying the kind of collaboration between tech and governments discussed in the previous chapter. Two such apps – the TraffickCam and the Apprise app – are great examples

84 | of private tech interventions. These two initiatives have clear objectives, know their audiences, and address distinct problems in the anti-slavery field.

THE TRAFFICKCAM

According to the NGO Exchange Initiative, sex traffickers regularly post photos of victims posed in hotel rooms in their online advertisements. 75% of underage sex trafficking victims said they had been advertised or sold online.³⁷ In addition, hotels and motels are common venues for sex trafficking. The US National Human Trafficking Hotline states that nearly ten percent of cases reported to them took place in motels or hotels.³⁸ In response, the NGO reasoned that if investigators could identify the hotel rooms used in the ads, they might be able to locate the victim, or at least, identify hotels being regularly used by traffickers. From this logic Exchange Initiative developed the TraffickCam in 2015. The app creates a platform for collaboration between law enforcement and the public, giving anyone with a smartphone the opportunity to participate in the fight against slavery. The users of the app simply take photos of hotel rooms when they are travelling, and they record with each image the name and location of the hotel and the room number. When the image is submitted through the TraffickCam app, it joins a database of millions of other hotel room images. Image matching software can then be used to identify the hotel rooms found in the advertisements posted by sex traffickers pinpointing where violations are occurring for law enforcement. As of April 2018, there are over 2.8 million images in the database covering more than 254,000 hotels.

APPRISE – VICTIM IDENTIFICATION APP

In many countries, police and other front-line responders like NGOs face the daunting challenge of effectively communicating with possible victims of human trafficking. In the flow of trafficked people from poorer countries to richer countries, victims can arrive speaking one of literally hundreds of languages or sub-dialects. It may take time to find an interpreter in order to speak to a suspected victim or ask questions to identify those who might be enslaved, thus delaying the investigation. In Hong Kong, the anti-trafficking organisation The Mekong Club works with the United Nations University Institute of Computing and Society to address this challenge.³⁹ Together they have developed an app to help local police and front-line responders with immediate translation when trying to identify victims of slavery. A key feature of the app includes pre-recorded audio files asking questions in fourteen different languages. The front-line responder uses his or her smartphone's screen to show the possible victim the flags of different countries, helping them to select their language. When clicking on the flag the app takes them through a questionnaire designed to explore well-known 'red flags' that indicate slavery. The possible victim then taps "yes" or "no" to answer the questions. From their answers, the front-line responder can assess whether the person is, or is at risk of becoming, a victim of slavery. It demonstrates how technology can work for good to assist law enforcement and NGOs in addressing a critical challenge – crossing the language barrier when identifying potential victims. The app is now being piloted in Thailand.

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One worrying trend is a subgroup of applications that belong to the reporting apps category. Rather than reporting data to law enforcement or other front-line organisations that immediately respond to the information, the applications are designed to invite the public to identify victims, and provide information on traffickers and trafficking situations for the sake of data collection. Because of the detailed information that is requested, these apps can easily be confused with official reporting apps or helplines that connect directly to law enforcement or front-line responders. In addition, several of these apps gather differing yet overlapping data, and there is no unified framework or database where information is collected and can be accessed by law enforcement or other organisations. It is unclear what such information is used for, but it seems it is often only collected for the purposes of the sponsoring organisation. This is extremely problematic. What happens if a victim or survivor is expected to give information to an app and then again to law enforcement and then once more to service providers? What is gained by an NGO placing itself between the victim and the needed legal and support services? And what happens when an untrained if well-meaning member of the public tries to intervene or make a report through an app without the proper support for, or consent from, the victim?

Another challenge facing current applications is lack of geographic reach, despite frequent claims of global impact. Many apps in the app store are dependent on the IP address of your current location or the IP address of the location of your current account. Although it is relatively easy to conceal your IP address, an app developed and published in the United States

A good app comes from a good idea, knows its audience, is easy to find and often does one thing really well. But while there are apps that really contribute to society, creating an app might not always be the right solution.

might not be accessible to people in Europe. If the aim of the app is to gather information from all around the world, this limitation might result in incomplete data and create a mistaken picture of global slavery, which can ultimately skew appropriate sources of funding.

RATING APPLICATIONS

Assessing the extent to which the apps can have an impact on slavery and the anti-slavery movement is not a straightforward task. The number of app downloads in the app-stores gives an indication of popularity, but fails to suggest the number of active users or the true usefulness of the app. Everyone has downloaded applications on their smartphone that they never use or even delete after a while, but these metrics still count. Most of the apps have low estimated downloads which means that the number of active users is probably small and the effect on slavery minimal or even non-existent. The question is therefore, was the application necessary in the first place?

The TraffickCam app is one of the apps that has many downloads. However, it cannot be called a success based on this number alone, as it does not tell 1) if any victims have been rescued and 2) if the app has resulted in traffickers getting caught. The answers to these two questions are ultimately what decides whether an anti-slavery app is successful or not. Yet answering these questions is extremely difficult as there is no framework for measurement. Rather, we must look at closely related indicators such as number of cases improved, survivors helped, good data gathered, public awareness raised. But again, these are not straightforward criteria to measure. What exactly does 'improve' mean? What is 'good' data? How does one measure 'public awareness'?

During the writing of this book, it has become apparent that there is a need for evaluating anti-slavery applications and communicate the findings.ⁱⁱ To do this, independent technology consultants who have extensive expertise in the anti-trafficking movement were hired.ⁱⁱⁱ The rating framework that was established in order to analyse and rank applications included criteria such as: clarity of general purpose, usability, privacy settings, accuracy of human trafficking information, offensive/stigmatizing language or imagery, information on data collection, and user safety. This framework was then applied to the apps.

One application that scored well using the slaveryapps.com criteria was the Safe Car Wash app.⁴⁰ The Clewer Initiative in the UK, with the support of the Santa Marta Group and local law enforcement, launched the app in June 2018. This app is part of a larger initiative to eradicate labour exploitation in the 18,000 hand car-washes in Britain. If you are considering using a particular car wash the app will take you through the most obvious indicators of slavery, and ask you, to determine whether those signs are present or not. If the scores suggest a high likelihood of slavery in the car wash, you will be advised to call the Modern Slavery Helpline, or the police if there is immediate danger. According to the results of the rating process, we rate this app as useful in the fight against human trafficking. The app states a clear purpose and explains well what it does with the collected data. The data will be anonymised and shared with the National Crime Agency (NCA) and the Gangmasters and Labour Abuse Authority (GLAA). The design and 'usability' of the app were considered impressive. Time will tell if this app truly proves successful in eradicating slavery in hand car-washes in the UK.

ⁱⁱ As this book went to press (Oct. 2018) a number of NGOs are working together to plan and build a website that will test, review, and rank anti-slavery apps - this is a work in progress. We recommend you watch for its launch (slaveryapps.com).

ⁱⁱⁱ The technology consultants of AnnieCannons, Inc have rated the applications. More about their organisation in a later chapter.

Other applications that were rated resulted in some disturbing observations. Stigmatizing imagery was found, as well as incomplete or incorrect information on human trafficking red flags. One app conflated sex work and trafficking into commercial sexual exploitation, rather than as two different categories. Some apps crashed when submitting the report, links did not work, and in one case, when calling a “helpline” that was provided by the app - “a man answered as if it were his personal phone. He just said ‘hello?’” one of the experts explained. The expert assessing the app had expected that the person answering would identify him or herself as a professional and the nature of the helpline – this is clearly a ‘red flag’ of a poor, perhaps dangerous, app. What is to prevent a trafficker setting up his own helpline? Nothing.

Obviously, the development of appropriate anti-slavery apps will be a learning process as technology develops rapidly. The findings emphasize the need for collaborative research and combined efforts to solve problems faced by multiple stakeholders. Unfortunately, anti-slavery organisations are not well known for their willingness to cooperate and collaborate with each other. Rather they tend to work independently, without sharing information and resources. It is understandable that organisations want to protect what is unique to them; they want of course, to see their projects succeed and their specific goals achieved. It is also understandable that when a government makes everyone apply for the same limited financial support, it is not easy to freely share knowledge and skills. The result is that organisations may prefer to build their own app rather than collaborating with others hindering developing really useful technology. We believe that an app rating system will help organisations decide if they need to develop an app,

and if so, how to ensure security, clarity, purpose and trauma-informed language within the app.

Addressing the general lack of collaboration in the anti-slavery movement, the anti-trafficking organisation Liberty Asia has launched the online platform The Freedom Collaborative. It is a free online collaboration network for all types of anti-trafficking initiatives. Through this digital platform they work to bring organisations together, providing access to digital tools for collecting, analysing, and sharing data. They also offer much needed education through webinars and papers on sensible and appropriate use of technology in anti-trafficking work and other related issues. They explain that:

*We aim to help users share their knowledge, conduct original research to deepen our collective understanding of trafficking trends and effective counter initiatives, create opportunities to identify and connect with partners, and build capacity to design, develop, and implement impactful programs.*⁴¹

This act of sharing information is central to forming a unified front against slavery and trafficking, especially in the age of digital technology. Yet this can be challenging for many organisations, primarily because of legal requirements on privacy, but also to protect the identity of the organisation and its unique work. A common platform of collaboration that aims to preserve the unique facets of every initiative and allow space for individuality within collaboration should encourage more organisations to join in.

**THERE SHOULD NOT BE AN APP FOR THAT
– A SURVIVOR'S PERSPECTIVE**

Arseniusz and Bartosz are survivors of slavery. Sitting down with them to hear about their experiences, being enslaved in a car wash in Norway, was both surprising and insightful.⁴² They began to tell their story of what had happened to them on their journey to find work to provide for their families.

In 2013 Bartosz left Poland to find work in Norway. Upon arrival, he quickly got a job at a car wash just outside Oslo. The job seemed promising at first. However, he had to work long hours, often up to eleven hours per day. It was around Christmas time, and the employer assured him it was only temporary. Bartosz continued working long days, motivated by the overtime payment he assumed would come. It would be a tidy sum to send back to his family in Poland. When the employer needed to hire more workers, Bartosz contacted his neighbour in Poland, and Arseniusz packed his bags and moved to what he expected to be the land of milk and honey. The excitement did not last long. Bartosz had begun to realise something was wrong. He had not yet received any payment, even though the company had promised him the money, which meant Bartosz had no other choice but to borrow money from his employer. His situation went from bad to worse – he was not only without an income, but now was also in debt.

The eleven-hour workdays continued for both men. After receiving a small portion of their wages, they were made to withdraw the money from an ATM to give it back to their employer. Every Saturday, plastic bags full of cash were lying on the table in the car wash. They assumed the money came from cash-in-hand deals, having also noticed that the automatic payment card reader at the car wash often “did not work”,

**What is gained by an NGO placing
itself between the victim and the
needed legal and support services?**

forcing people to pay cash. The two Polish men were convinced their employers were part of a bigger criminal network. After seeking help through different governmental and non-governmental organisations the situation got worse; they were regularly intimidated and threatened with death by their employer.

Arseniusz says he recorded the employer's intimidations and death threats on a small mp3 player he hid in his pocket. Although the case was opened by the police twice, it was finally closed in 2017 due to lack of evidence.

THE FACTS ACCORDING TO ARSENIUSZ AND BARTOSZ:

- The two men were given contracts for 120 NOK per hour and a working week of 37,5 hours, but the Labour Union calculated they were paid 17 NOK per hour and worked 64 hours a week.
 - Their passports were taken from them.
- Bartosz was injured at work, in part due to overwork and poor working conditions, and the damage to his hand and injured knee means he now needs surgery.
- They were given no rest breaks and were constantly pushed to work harder.
 - The employers kept 1.2 million NOK in wages from them estimated by the Labour Union.
 - As recorded on the mp3-player, they were threatened with physical assault and with death.

Under international guidelines for the identification of trafficking cases, these men were enslaved. Yet, the system was not able to offer them justice. The very governmental institutions and law enforcement that are charged with dealing with this crime were not able to stop the slavery from taking place or protect the victims. Norway, a country with labour laws in place, known for little corruption, can clearly fail to address a clear case of reported and documented slavery.

Reflecting on their story Arseniusz and Bartosz say that they believe there are many people like them in Norway and that their case is just the tip of the iceberg. People in Poland are told that Norway is a great place to make money and migrate there in the search of better opportunities. Some employers look for people who do not speak English, finding them by word-of-mouth and via online advertisements posted in Poland. The car wash worked in this manner, Arseniusz explains:

“Polish people are recruited to work in Norway because they do not know the language and they do not know the system [...] Now I know the system here, no Norwegian is so stupid as to work for a car wash. Have you ever seen a Norwegian working in a car wash?”

He believes technology could have helped them:

“We need an information page on the Internet in many languages for people in trouble in Norway. For example, if you write in Google: ‘Trouble in Norway’ or ‘Work in Norway not good, I am in trouble’”.

He suggests that a page should come up in many languages and give insight into what one should do. Even though there are many websites that provide information on labour rights for immigrants in many languages, the problem is that these

are difficult to find if you do not know what you are looking for. Arseniusz did not know what slavery was, nor that he himself was a victim of it. He just knew his circumstances were far from normal. Based on his own experience, he emphasised that people need to know that slavery still exists. Countries tend to know which groups of people are most vulnerable within their borders, and which of their neighbours generate the most work-seeking refugees and migrants. These are the target groups that prevention workers and governments need to reach out to with educational materials, not just on paper but digitally. According to the two men, it is important that information goes out through ordinary social media channels in order to reach many.

“On Facebook there are many groups like ‘Polish people in Norway’” Arseniusz says.

These people could be reached by simply publishing information on the topic. In answer to the question of whether a mobile app could have helped them, they answered: “an app is too difficult; people do not know it exists or how to use it.” The lack of smartphone ownership among this group make the development of an app to reach these men a waste of money and time. To download an app, you need to know it exists.

Increasingly, social media is used to spread information to large audiences, making it the perfect platform for campaigns to ignite social movements. Such awareness campaigns have become an important strategy for NGOs and anti-slavery organisations.⁴³ They use Facebook pages, Instagram accounts, Twitter accounts, and more, in order to expand the reach of their message. If we listen to Arseniusz, we see that social media could play an even more important role. Why settle for awareness-raising campaigns targeting supporters, when

both victims and potential victims are themselves on Facebook, Twitter and Instagram? Why is Facebook not already overflowing with campaigns targeting victims and potential victims directly? Victims are in desperate need of information that matters to them: How do I get out of slavery? Who do I contact? What are my rights? Where can I go? Social media has the potential to be a highly effective platform for speaking directly to (potential) victims, not just the general public.

Survivors like Arseniusz and Bartosz have a unique perspective on the circumstances that brought them into slavery and possess inside information that other actors in the field do not have. They are the experts and should be included in the development of new solutions and anti-slavery strategies. The survivor’s perspective would help organisations and governments to focus their efforts on solutions that work, saving time and resources.

HASHTAG OUR STORIES

By telling their story in a TV-documentary Arseniusz and Bartosz joined the longstanding anti-slavery tradition of storytelling.⁴⁴ In 19th century America, journalists and advocates began actively publishing stories and articles to make known the horrible circumstances of the slaves. One of these activists was William Lloyd Garrison, founder of the Boston based abolitionist newspaper “*The Liberator*” in 1831. The newspaper was the start of a movement, creating a springboard for groups of abolitionists, and became one of the most influential periodical publications of the anti-slavery movement. Together with other writings, newspaper publications and pamphlets, it fuelled the movement with knowledge and hope.

Books also became important contributors; survivors of slavery started writing down their stories and published autobiographies, among them Frederick Douglas and Olaudah Equiano, which became very influential. Harriet Beecher Stowe's famous novel "*Uncle Tom's Cabin*", published in 1852, was inspired by the autobiography of Josiah Henson who fled from enslavement on a tobacco plantation in Maryland in 1830. Her book has reached hundreds of thousands of people, and is still read in schools and homes around the world.

Today, books, newspapers and pamphlets are increasingly replaced by apps, blogs, webinars and podcasts on digital devices, and social media has provided a new unique arena for sharing stories. Young innovative journalists are now using apps to enable trafficking survivors to share their stories.

Yusuf Omar is one of them. He is a mobile journalist and the co-founder of Hashtag Our Stories. As a journalist, he covered the Syrian civil war using only his mobile phone. With the organisation Hashtag Our Stories, he is promoting and educating mobile storytelling. The aim is to engage, inform and help mobile storytellers to bring about political reform in their communities. In an interview, Yusuf tells us that he recently worked with trafficking survivors in Abu Dhabi, the capital of the United Arab Emirates. Abu Dhabi is known to be a human trafficking nexus in the region. Women from poor countries, such as Nigeria, Pakistan and Bangladesh, are promised jobs as nurses and domestic workers. They leave their countries in good faith, only to be kidnapped and forced into commercial sexual exploitation upon arrival.

Hashtag Our Stories worked with trafficking survivors in a shelter in Abu Dhabi, teaching them how to use social media to tell their stories and share them with the world. Instead of

having a camera facing them, the survivors wore the camera themselves using Snapchat Spectacles – special glasses with a video camera built into the frame. This way the survivor was both anonymised and empowered to share their journey through their own eyes. Omar calls it decentralising the camera. On an earlier occasion, Omar helped victims of sexual abuse in India share their stories using the Snapchat mobile app. A feature of Snapchat is its use of masks or facial filters based on unique face mapping algorithms.⁴⁵

"These filters allow the viewer to see the eyes of the person hiding behind the mask of a dragon or a dog," Omar explains. He points out that these filters provide a level of trust, safety and self-expression. Being a journalist himself he knows that people can be extremely uncomfortable while sharing vulnerable stories, especially about exploitation and trafficking. The survivor chose a mask that empowered them to feel safe to speak about what happened to them despite the stigma on sexual abuse in India. The mask protected the identity of the survivor, yet offered an opportunity to speak out about what had happened. The Snapchat app allowed for immediate sharing on digital platforms.

During recent decades, a large proportion of slavery stories have focused on shocking cases of enslavement into commercial sexual exploitation usually accompanied by sensationalist images. Omar's sensitive way of doing journalism puts the survivor back in the director's chair, controlling and shaping their own narrative.

**SEE HOW SURVIVORS USE SNAPCHAT
TO TELL THEIR STORIES**

Is there an app for that? Clearly the answer to the question is yes! Creative and innovative use of existing apps might be a better strategy than inventing a brand-new app concept that does not work well. Because the anti-slavery movement is not driven by ‘business success’, it may not be the natural home for tech or app development. Success in anti-slavery work must be measured in terms of changed lives of millions of enslaved people. With this in mind, as we develop tech tools for the purpose of anti-slavery work, we must ensure that these solutions are sensible and well-researched, with the safety of the trafficked or enslaved person as the number one priority. All new technology is in some way an extension of old technology. There is no need to re-invent any wheels that are already rolling in the right direction, although they might need adjustment to a specific culture, context or need. In many ways we are in the earliest days of the digital-tech revolution, yet digital technology is already a powerful tool to disrupt slavery. And as more tech-whizzes become abolitionists the dawn of freedom comes nearer.

Unfortunately, anti-slavery organisations are not well known for their willingness to cooperate and collaborate with each other. Rather they tend to work independently, without sharing information and resources.

The Downside of Data

*Privacy matters; privacy is what allows us to determine who we are and who we want to be.*⁴⁶

Edward Snowden

Joy, a young woman from Nigeria, was lucky and managed to escape from forced commercial sexual exploitation in Europe. After escaping from her traffickers Joy was offered a place in a safe house where she could rest, wait for further help, and begin rehabilitating. Although she was safe, her new home presented her with a set of digital challenges. When she registered, the safe house recorded her basic information, and wanted her to sign an agreement stating that some of her information would be shared with the organisations they worked with. Although she signed, she had no idea what she had agreed to. How long the information would be stored and what would happen to her information when she departed the safe house was not clear or agreed upon. In her situation, she had no way to control who eventually ended up with her data, but maybe understandably, she was not concerned with this at the time.

The best argument for the right to privacy is to imagine a world without it. A police state might be efficient at eradicating crime, but it would do so at the cost of people's freedom. The trade-off between privacy and security creates a great tension. To what extent can privacy be compromised in order to maintain just enough security? This is a hot topic debated on

both national and international levels. How does this debate affect anti-slavery work?

Article 12 of the non-binding 1948 United Nations Universal Declaration of Human Rights⁴⁷ states "No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation." Although information technology was likely not on the minds of the people signing this declaration in 1948, the idea of restrictions on arbitrary interference with someone's privacy can easily be extended to include digital privacy of data and correspondence. This has legally been done and many laws and protocols have followed.⁴⁸

A Senior Privacy Analyst interviewed about privacy in relation to human trafficking, explains that someone rebuilding their life may already face significant hurdles, thus discrimination that may result from an invasion of privacy presents another hurdle.⁴⁹ The anti-slavery movement is obliged by law to ensure that the survivors' privacy and safety is first priority and is honoured and respected throughout the process.

THE ONGOING HUNGER FOR DATA

The issue of slavery has received increased attention in recent years, which has encouraged the extensive collection and sharing of information due to the increased use of digital technologies. New applications, databases, digital archives, software analytics and new ways of corresponding are developed and used to benefit the anti-slavery movement and ultimately to free slaves. Even though the collecting of data is necessary and recommended it does lead to the accumulation of data, and this carries risks that are in need of consideration. Risks such as data-leaks or misuse of data can endanger both survi-

104 | vors and the organisation collecting the data. It is critical for all the different actors collecting data to pay close attention to why and how data is being collected and where and for how long it is stored. This is specifically important for all actors processing sensitive personal data such as rescue missions, app developers, safe houses, national referral mechanisms and the survivors themselves.^{iv} There is a potential risk that a survivor can be re-victimised if data is leaked or lingers in places where it has potential to be found.

The datACT Project (Data Protection in Anti-Trafficking Action) provides fundamental insight and recommendations for dealing with data collection in anti-trafficking work, especially for initial responses and counselling. In their study “*Data Protection Challenges in Anti-Trafficking Policies – A Practical Guide*” they note that:

*In general, anti-trafficking measures should clearly define the purpose of data collection once it is made a condition to access support structures. The purpose should be based on a legitimate interest. The processing of personal data is dependent upon the free and informed consent of the data subject, in this case the trafficked person.*⁵⁰

This makes clear that the collecting and processing of data needs a plan and structure, and that it can never be just ‘nice to have’ or kept ‘just in case’. All organisations have to comply with the privacy and data protection principles. In addition, it is important that the survivor gives informed consent and understands her human right to privacy and what this entails for the collection of her personal information. It also gives him or her the right to see the data and make changes, or request that

it will be deleted. It is therefore questionable if it was right to ask Joy for a consent concerning her data upon arriving at the safe house. If the consent is perceived as a condition for entering the safe house, the subject is not truly free to refuse to give her consent, as it becomes a choice between safety and privacy.

PRIVACY SETTINGS MATTER

The right to privacy is one of the most important of human rights as it empowers the survivor to take back ownership over their life and data. Communicating these rights and their implications is essential, as not all survivors are aware of what these might be.

Privacy settings on devices is another aspect of privacy that is under-communicated to both staff and survivors in safe houses. Many devices and software such as social media applications on iPhones or tablets have the option to have the *Global Positioning System* (GPS) turned on. Not many of us realise that this setting is on most of the time, but managing it properly is crucial in keeping survivors safe especially when living in a safe house. Staff who use their social media to communicate to each other or to third parties also need to pay attention to these settings. The story of Joy exemplifies why privacy settings and their implications need better understanding.

In the safe house, Joy was surrounded by technology. She had two phones and a tablet that she insisted on keeping. The safe house provided a computer that she and others could use. In addition, the other survivors and staff all had their own personal devices. The staff urged Joy not to share the address of the safe house with anyone, and rightly so, but neither Joy nor the staff really knew to what extent their technological devices

^{iv} A ‘safe house’ is a house in a secret location used for slavery survivors to live during the decision and reflection time. The exact definition depends on the country.

were leaving traces. The two phones given to her by her trafficker could have been set up to be traced, and should not have come with her to the safe house. Smart phones and tablets are also traceable, sharing locations with almost every WhatsApp or iMessage she sent to friends and family. When she posted on social media, Joy was not aware that her location could be tagged in her photos, and that the IP-addresses linked to her devices were stored every time she went online. The pictures she shared could easily reveal a bit too much of the surroundings. This is equally true for the safe-house staff, who can take their anonymity for granted, while the truth is that they are often easy to find. An innocent three-second picture sent on Snapchat might, in the worst case, lead perpetrators straight to the house. The consequence is that the most crucial feature of the safe house, its hidden location, is compromised through an inadequate understanding of technology. The safe house that offered Joy protection could suddenly become traceable and unsafe for her and other trafficking survivors.⁵¹

In this case there are some general actions that can be taken. Providing staff training on the use of digital technology in sensitive settings is recommended. Invite an expert to teach staff about sensitivity of personal data and the consequences of use, privacy settings and the implications of online sharing for victims and for themselves. In addition, survivors should know about the risks and implications of the use of technology and social media applications. Understanding how to use privacy settings is essential. General policy must be created on the use of devices in secure settings, including an action plan in the case of an information leak by staff or survivor. Further insights and recommendations can be found in the DatAct report already mentioned.⁵²

New digital technologies have given the anti-slavery movement tools to efficiently collect, process and store data, and to share it with others. Organisations have developed special databases, and they use various tools to analyse and gather information to help assess the issue as best as they can. This seems reasonable to the western twenty-first century approach to solving problems. After all, slavery is complex and data can give us more understanding, knowledge and even provide strategies for fighting slavery. But can the hunger and need for data lead to excessive data collection?

The Senior Privacy Analyst continues to explain that when privacy is discussed in regard to slavery, it is not only the privacy of the victim that is important. The perpetrator also has a right to privacy (whether society deems them 'deserving' or not) and with new technologies like facial recognition and drones, data of the innocent bystander is included in this group because they can be implicated by association. There is ongoing debate within the anti-slavery movement in Europe regarding privacy.

There are three important interconnected aspects in this debate:

DATA PROTECTION OF VICTIMS

Is it acceptable to justify compromising the privacy of victims for the purpose of fighting world slavery, given that it might benefit the enslaved person eventually?

DATA PROTECTION OF PERPETRATORS

Does law enforcement have to respect the personal privacy of traffickers and perpetrators and protect their data to the same extent as any other citizen?

DATA PROTECTION OF THE INNOCENT BYSTANDER

When technology is used to expose trafficking with the aim of prevention, combatting or prosecution, is it acceptable that a bystander's data is collected and stored without their knowledge or consent?

How much data are we willing to give up or share in order to combat slavery? Who should be allowed to go through your personal data in order to help a victim of human trafficking? With more camera tools and facial recognition software we might be able to catch more perpetrators, but what if the search for data will also have an impact on the innocent bystanders in the case? These ethical considerations should also be subject to regulations. Solutions have yet to be agreed upon, yet are essential in the development and implementation of new technologies.

Amazon, the digital market place, has been in the news recently due to a product they sell called Amazon Rekognition, a facial recognition technology. This artificial intel-

ligence software has been used by both police departments and anti-trafficking companies, such as Marinus Analytics, to fight human trafficking.⁵³ Facial recognition allows the user to identify people in photos or videos without their knowledge or permission. It is possible that this tool could lead to finding perpetrators or victims in cases of human trafficking. However, a test done by The American Civil Liberties Union (ACLU) showed that such tools need to be critically evaluated. The ACLU scanned the official photos of every member of the US Congress and found that 28 of them were incorrectly matched to 28 criminal mugshots.

"This test confirms that facial recognition is flawed, biased and dangerous," said Jacob Snow, a technology and civil liberties lawyer with the ACLU of Northern California in an interview with the New York Times.⁵⁴

"Face surveillance also threatens to chill First Amendment-protected activity like engaging in protest or practicing religion, and it can be used to subject immigrants to further abuse from the government," the ACLU stated in an interview with Fortune.⁵⁵ It can be argued that facial recognition is a threat to the privacy of members of the public, even though it can be used for anti-crime purposes. In addition, when the technology is flawed it can have even bigger consequences such as an innocent bystander (or a member of the US Congress) being wrongly identified as a perpetrator. These types of challenges will only increase as new technologies enter the world and privacy laws struggle to catch up.

Some argue that responsibility lies with governments to regulate technology when it has the potential to endanger the rights of individuals. However, there is also much we can do as citizens to ensure our privacy is protected through our own

devices, and by ensuring how and when we consent for our information to be shared.

The implementation of the new “*General Data Protection Regulation*” (GDPR) that entered into force on the 25th of May 2018 makes the issue of privacy a relevant topic for further debate and concern since it applies to all European businesses and organisations processing personal data, and, in certain circumstances, to organisations that process personal data outside of the EU. The GDPR significantly expands the data privacy rights granted to individuals, including slavery survivors, and it places many new obligations on organisations that handle personal information. It is therefore necessary that anti-slavery organisations processing extremely sensitive data understand their obligation to comply with the requirements of the GDPR and the local requirements the government in that particular state and country has provided.

More research and policies are needed to optimise the knowledge of the implications for data privacy in the context of slavery, especially in light of the new regulations. New technological inventions will be critical in combatting slavery, yet the use of such inventions should never compromise or further infringe the human rights of slavery victims and survivors.

How much data are we willing to give up or share in order to combat slavery? Who should be allowed to go through your personal data in order to help a victim of human trafficking?

Digital Literacy

*Education is the most powerful weapon which you
can use to change the world.*⁵⁶

Nelson Mandela

Around 1440, Johannes Gutenberg invented the printing press. It was a revolution – suddenly texts, leaflets and books could be duplicated and spread at a fraction of the former price. Yet it also amplified the divide between those who could read and those who could not. This holds true even today. Millions of children worldwide are not receiving proper education, and do not know how to read or write. In most cases, they are the children in poorer developing nations, but they can be found in all countries.

Nelson Mandela viewed education as the most powerful tool for changing our perception of the world. He recognised that as long as humans are split into groups, such as literate vs. illiterate, privileged vs. unfortunate, the powerful vs. the oppressed, the world would remain unjust.

Slavery thrives where poverty prevails, and poverty prevails where there is a lack of education. Education is thus a fundamental and essential tool against slavery – not only education on the issue of slavery but education in general. Going to school gives knowledge, empowerment, and opportunity, enabling people to build a future with a reliable income.

Women and girls are especially prone to being excluded from the educational system, which is a huge loss not only for

them but also for their communities and the rest of the world. Imagine what would become possible if girls and women were more widely and comprehensively educated. The world would be enriched in multiple ways. Not only would women become enabled to find steady jobs and provide income for their families, they would be empowered to become innovators and entrepreneurs. This would contribute to society on a completely different level and could change the outlook for future generations.

Reading and writing are key skills that enable people to participate in society both locally and globally, yet another skill has become increasingly important: digital literacy. For someone to truly take part in the free and global world, they need to have basic knowledge on how to use technology. Through technology, one gains access to information, easy communication, and exposure to new perspectives. Teaching digital literacy is today almost as essential as ‘traditional literacy’ because technology is the global framework that binds us all together. As more and more acquire this basic skill, we form together a global community of digital citizens.

PREVENTING SLAVERY WITH DIGITAL LITERACY

Roya Mahboob, a young Afghan woman, has dedicated her life to helping young women to become digitally literate.⁵⁷ Through helping them become global digital citizens, Mahboob is taking part in lifting her own community and country out of the challenging conditions of slavery that she witnessed growing up.

In 2001, in the wake of the September 11 attacks in New York, the American invasion of the country began, but even before that Afghanistan had a long history of conflict and war. Crisis and war are usually followed by an increase in

114 | slavery because the rule of law crumbles. Afghanistan, number 6 of the 167 countries in the Global Slavery Index prevalence list⁵⁸, is known to be a source, transit, and destination country for human trafficking, and to have more internal human trafficking than transnational trafficking. In rural areas, women, men, and children from vulnerable communities are especially likely to be trapped and ruined by slavery. They might be forced into commercial sexual exploitation including *bacha baazi*^v, forced labour, forced marriage, servitude, and the removal and sale of organs.

As a young girl, Roya knew little about the world outside of Herat, the city where she grew up. Her only reference points were that of her family and of the local community, which was typical for her generation. She describes that as a young Afghan they did not have any type of entertainment; you went to school, walked back home, and then the family would decide what to watch on television.

“You have no connection to society. You do not know what is happening around the world.”

From a young age, she felt that this isolation was not helping society to grow – rather it kept it small and conservative with no room to think differently. It was not normal for girls to go to school and definitely not to pursue dreams outside the house or community.

“It was a society without female role models,” she says. “The dream for girls was mostly uniform. Many girls got married when they were very young, to the man that the family chose for them.”

Threatened by the Taliban, Roya had to flee with her family to Iran when she was seven and stayed there until she was 15 years old. It was in Iran she learned to fight for what she wanted.

“As an immigrant, you do not have the same opportunity as a citizen [...] I was not allowed to attend regular school for example.”

It was in Iran that she one day heard about this new thing: a computer.

“This box with tons of books, languages and knowledge in it, available to everyone.”

Since she had no access to a real computer, she decided to buy a book about it instead; her interest in technology had been sparked.

After the Taliban was defeated around 2001, the family moved back to Afghanistan. Mahboob discovered a recently opened Internet cafe in Herat with real computers. For the first time, she was able to bring what she learned from the book into practice on an actual computer. The owner of the cafe was quite surprised to see a young Afghan woman taking interest in the computer, an interest which fuelled her passion for giving women the chance to access, master, and benefit from all that the computer could offer.

Roya’s family supported her to take further education, and driven by her curiosity she took every opportunity she could.

“The right opportunities can change a life! It is important to take new opportunities and be open minded.”

Roya took computer courses through the “United Nations Development Program” and decided to study computer science at the University of Herat. This changed her life forever. The computer had allowed Roya to become a global digital citizen in a world not limited by borders or gender, race, colour or religion. No passport was needed and everyone was equal. Suddenly she had a voice that was waiting to be heard. She started working as the first IT coordinator at the University of Herat.

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^v *Bacha bazi* is a slang term in Afghanistan for activities involving sexual relations between older men and boys. This practice is enforced by selling them into slavery.

In 2010, together with her sister and two classmates, she started an IT company, 'Afghan Citadel', aiming to create job opportunities for women graduating from computer science. The company employed at least 20 programmers, more than half of whom were women. This led to another project, 'Women Annex', which invested in digital literacy for girls by providing the opportunity and the knowledge to connect, produce, share, and collaborate through a range of technologically based tools.

There was trouble ahead. Their growing company was perceived as a threat to the conservative society around them. Threats from the Taliban and harassment from people in her own sector put her and her employees in danger. The challenges were not unexpected as the company gave an opportunity to the voiceless and schooling to the uneducated. After several death threats, Mahboob had to flee her own country again, closing her company Afghan Citadel, but she did not give up her vision and dream.

Today Mahboob lives in New York where she, her sister, and her business partner Francesco Rulli have started a new company. Driven by the desire to educate women and girls and change her community, she started the online educational platform EdyEdy and a non-profit organisation, the Digital Citizen Fund, focused on digital literacy for women and girls around the world. Through this non-profit organisation they build IT centres in local schools teaching young women primarily between the ages of 12 and 18. They are taught basic skills of coding, word processing, presentations, financial operations, internet-based tasks for educational and professional purposes, and social media. The goal is for them to become professionals with the digital education they need to compete for jobs, and thus create stable lives, allowing local communi-

ties to be empowered and transformed. They have over 55,000 female students in their network and have trained over 13,000 students in the classrooms. Roya sees technology as one of the major solutions to the injustice of her country, especially considering only 10% of Afghanistan has access to the Internet.

"Fortunately, Afghanistan is changing," she says. "People are starting to think differently." Roya's hope for Afghanistan is that through education and access to technology, women, girls, but also boys and men can become digital citizens and have opportunities otherwise not possible. She believes that by providing education in combination with technology, lives can be changed.

"Afghans have access to cell phones but they need to know how to use them in the right way. This is part of that education. This can happen in the schools, mosques, via courses and even through radio and television programs."

She believes that by prioritising access to technology and education in the more rural areas, people can become educated.

"Technology is a powerful tool that can give people a voice, but it is important that they know how to use it. Everyone deserves to be part of the global conversation."

It is especially important to focus on the younger generations, as more than half the population consists of teenagers and children. In Roya's words, "they are the future of Afghanistan!"

Her efforts have not gone unnoticed. In 2013 Time Magazine put her on the list of the 100 most influential people in the world and she was one of the World Economic Forum's Young Global Leaders in 2015. The story of Roya Mahboob clearly shows that being Afghan herself, and knowing her community and its needs, helped her create a change that is sustainable and addresses big cultural issues. Even though her work is not

118 | the typical abolitionist's work, and while she didn't set out to be part of the anti-slavery movement, she is indeed combatting slavery using digital literacy. Helping people become digitally literate works to prevent them ending up in slavery. It is also a crucial part of the road to recovery after a slave has gained freedom.

REHABILITATION FROM SLAVERY THROUGH DIGITAL LITERACY

Abolitionist Benjamin Franklin was one of the first to speak of educating slaves after they had found their freedom. In one of his writings called "*Address to the Public*" published in 1789, he described how he believes it is important to:

*instruct, to advise, to qualify those who have been restored to freedom, for the exercise and enjoyment of civil liberty; to promote in them habits of industry, to furnish them with employment suited to their age, sex, talents, and other circumstances [...] which we conceive will essentially promote the public good, and the happiness of these hitherto much neglected fellow-creatures.*⁵⁹

Laura Hackney and the California-based organisation AnnieCannons offer such education today. Laura, a well-educated young woman with much experience from the anti-trafficking field, started this company together with co-founder and attorney Jessica Hubley out of a deep frustration.

"When a victim would come out of a trafficking situation and reach a shelter and find safety, there was not much to help them re-integrate. The anti-trafficking movement has made a lot of effort to incorporate the survivors voice and focusing on aftercare on housing, case management, counseling, etc. The

focus has not been so much on them building a career and moving on from having the identity of a survivor to being part of society again."⁶⁰

The trafficking survivors Laura was meeting needed a job to build a new life, but without previous educational opportunities or access to workforce support, they ended up back in the exploitative situations they came from. Laura and Jessica realised most help offered to survivors was focused on sewing classes, jewellery making, or other low-income professions. Why not train the survivors for high-income professions?

With the increasing number of tech companies in the California Bay Area, Laura and Jessica observed a trend of people re-educating themselves using expensive and intense coding boot camps. They asked themselves how they could connect trafficking survivors to this new industry and the income it had to offer. In 2015 they started the company AnnieCannons using the large demand for programmers in the Silicon Valley market as an answer to their problem – the lack of careers available to survivors.

A trafficking survivor can enrol as a student in a two-phase project-based training program. First, they go through a digital literacy phase where they learn the basics of what it means to be a web developer. After completing this phase, the student can start taking work sourced by AnnieCannons on data entry projects at about \$20 per hour. This way they have an income while they continue into the second phase of the training. The second phase is a five-month program in which the student can choose his or her area of focus, from among visual design, back-end web development, Python, security, hosting, databases, and more. After the second phase a student is ready to start projects on their

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own, and AnnieCannons continues sourcing work for them.

The reason AnnieCannons sources work for its students is to help them through the difficult beginning phase of establishing themselves as web developers. Most of them face many barriers, such as not having a four-year college degree, having a criminal record, not having finished school, needing child care, or being a woman or a woman of colour. By working for AnnieCannons they can work from home with kids around, without needing to face clients directly. Some students can work for several years building a portfolio, or they can become teaching assistants at AnnieCannons and later become instructors themselves.

In the future, AnnieCannons would like all instructors to be people who have gone through the program and who identify as survivors. AnnieCannons is now building a separate brand for the sourcing of work so that the students can build a portfolio, have business cards, and put the name of that brand on their documents, and not be tied to AnnieCannons or being a trafficking survivor.

AnnieCannons uses digital literacy to rehabilitate survivors of human trafficking, equipping them for the future. Yet there is another aspect to the work, Laura explains:

“Over the past ten years, the conferences and events in the anti-trafficking movement have been focusing on survivors telling their personal stories. Survivors have not had a voice in the conversation shaping solutions, legislation, and interventions to address trafficking”.

Therefore, it has become important at AnnieCannons to let the survivors come up with solutions, using their new skills to personally fight slavery. The students are asked to identify a problem they have come up against in their daily lives, whether

With the increasing number of tech companies in the California Bay Area, Laura and Jessica observed a trend of people re-educating themselves using expensive and intense coding boot camps. They asked themselves how they could connect trafficking survivors to this new industry and the income it had to offer.

122 | it has to do with human trafficking, gender-based violence or something else. The task is to try to find out how technology can solve a piece of this problem. During the training, the student builds a prototype of the project they developed. This way digital literacy is also used as a preventative tool against slavery by activating the rehabilitated survivors as agents for change.

One project gives insight into the importance of including survivors in solving critical problems, like filing a restraining order against an abuser or exploiter or fighting for custody of their young children. One AnnieCannons student wanted to hack this problem for good. She worked with lawyers, advocates, case managers, and her fellow classmates to come up with the idea for GetTRO, a native mobile app that allows users to easily learn about the restraining order process and fill out the paperwork for filing a temporary restraining order (TRO) on their phones. In order to stop the cycle of exploitation, survivors need to be able to protect themselves against those who have harmed them in the past, and this app is one tool to help those who want to navigate the often confusing and overwhelming legal processes. This application is being testing in Alameda County, California, and there are plans to expand to jurisdictions across the country.

Laura believes that we should not only focus on the isolated act of human trafficking and exploitation but also on to the myriad of social, political, and economic factors that create an environment for exploitation in the first place.

“To isolate things is difficult; I talk about inequality, foster-care systems, racial inequality, access to technology for women and girls and the lack of affordable housing.” Slavery is the end result of all these things coming together. Having survivors use technology to solve the underlying problems is of equal importance.

A different student was very frustrated with the under-reporting of sexual assault in the United States. Victims do not want to report the issue because of shame, having to deal with law enforcement, and the bad treatment of women who come forward to report their perpetrators. All of these factors contribute to trafficking, but are not identified on the slavery map. The student wanted to create a way for people to use their voice without having to go through all the previous issues. She created the website survivors.io with the following purpose in mind:

We made this app to provide a resource for survivors of sexual assault to anonymously share data that can help others avoid dangerous areas and help us all see the reality of rape culture. We believe visibility is critical to drive change. We also think survivors deserve a discussion of sexual assault realities for our courts, law enforcement, and public services that eliminates victim shaming.⁶¹

LEARNING FROM THE PAST

Frederick Douglass (1818-1895) was born into slavery in early nineteenth century America, and rose from slavery to become a highly influential voice in his time. What started him on his way to freedom was learning how to read and write. His famous quote, “*Knowledge is the pathway from slavery to freedom*” still proves true in today’s world.⁶² After him, many slaves have led social movements and helped organisations by standing up for their own rights with their own ideas on how to bring about change. They chose not to remain a victim, but to be the change they wanted to see. For too long advocates have tried to solve problems while forgetting those who carry the solutions; those who have suffered yet have survived.

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Society must not extend the slavery of the survivor by failing to release them from the label of victim because true freedom goes far beyond that.

This means that collaborations with survivors are essential and necessary in order to create new, sometimes technological, solutions that can help others still enslaved – like the two Polish men sharing their own ideas on how to raise awareness in their own communities, or the students at AnnieCannons creating solutions for others still in bondage. The anti-slavery organisations, policy makers and governments must hear these voices. They are not helpless victims, but experts in their field having unique insight and innovative ideas. Let them be the leaders in creating solutions while others assist them in accessing training and skills they can take into their futures. Education is still the most powerful tool for changing the world, and digital literacy sets people off on a pathway of knowledge from slavery to freedom.

For too long advocates have tried to solve problems while forgetting those who carry the solutions; those who have suffered yet have survived.

At the Bottom

If we slowed down or stopped the boss would hit us, if we weren't moving fast when we hung the fish on the racks he'd hit us with a long stick he carried. All the time he'd yell at us calling us filthy names. Some boats brought their catch at night, others just at dawn. Often we'd have to work twenty-four hours straight. Maybe we'd be able to snatch a little sleep. The boss made us keep going as long as there were fish to clean and hang on the racks. The longer I worked, I'd get exhausted and clumsy. Sometimes I'd cut myself with the gutting knife or slip and fall from the drying rack. If you were cut or hurt you had to keep working. Whenever I made a mistake the boss would hit me. ... There were two small boys in our hut. The guard was sexually abusing them. He would come and get one or the other of them at night. They were really hurt. I felt so guilty that I couldn't protect them. The guard would come at night and take a boy, and we'd want to stop him but we couldn't, if we said anything the guards would beat us.

Shumir – a teenager in Bangladesh, working in a fish and shrimp processing camp; the shrimp goes to North America and Europe, the fish into pet food for America and Europe.

A successful business makes profits, and to do so the business owner constantly seeks to minimise her costs and risks in the competitive market. In the clothing industry, competition is high, turnover rapid, trends move quickly, and consumers have plenty of choice in both style and price. In such a mass market, higher prices might mean losing customers to other companies. Many critics have noted that the clothing industry is in a 'race to the bottom', needing to produce large amounts of clothing at the cheapest possible price. To win this race companies must find the cheapest possible labour in the world, and this regular movement of production around the developing world has made it difficult for western businesses to know who really works in their supply chains and how these garment workers are treated. As a result workers' rights are compromised and a production system built upon slavery and forced labour has taken root in the global economy.

Awareness groups and campaigners have taken a stand for the garment workers in the textile industry. This attention and action escalated after the collapse of the garment factory Rana Plaza in Bangladesh on April 24th 2013, while it was producing clothing for western companies. More than 1,100 people were killed and many more were injured. The disaster occurred the day after the building was evacuated because of cracks appearing in the walls. In spite of this warning, the workers were allowed back in, or told to return by the factory owners, and became victims of the collapse the following day.⁶³

In a key response to this terrible accident and the resulting exposure of workplace exploitation, tech developers and NGOs teamed up to create apps and other software to both help consumers make better choices when purchasing clothing and pressure producers to clean up their supply chains, and to create platforms for workers' voices to be heard.

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“One of the biggest challenges is that slavery exists very deep in the supply chain - in the primary resource location - we are talking about on boats, fields or mines. Most companies do not buy from these people directly; they don’t buy the raw materials but buy semi-processed material. This makes it difficult for companies to check their supply chain.”⁶⁴

– Ben Hafner, Former Product Director, Made in a Free World.

The organisation Made in a Free World (MIAFW), founded by Justin Dillon, created the website slaveryfootprint.org in 2011, where consumers were offered a test to estimate the number of slaves that work for them around the world through analysing the products they own and consume. The website was such a success that the organisation wanted to do more to combat slavery in the supply chain. The team created the “Forced labor Risk Determination and Mitigation” (FRDM) software, which analyses the risk of forced labour within business supply chains. The database, which started with four hundred consumer products and has expanded to over 50,000 consumer and commercial products, allows companies to directly look up the specific product they are buying, and get detailed analysis of where slavery exists in that supply chain. If a business is buying a laptop, MIAFW can provide them with details of the various materials and components that go into the laptop, which they can track. Then MIAFW builds a probabilistic tree of the presence of slavery in the supply chain of the product from which they can identify where risks are located. Finally, the product’s or component’s specific risk analyses are combined to produce a complete picture of the risk of slavery within the whole production.

**TAKE THE TEST AND FIND OUT HOW
MANY SLAVES WORK FOR YOU**

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According to new laws and regulatory requirements in several countries, most recently the Modern Slavery Act in the UK and Australia, companies are obliged to work on keeping their supply chain free from slavery, and they must provide evidence of their efforts. This can be extremely challenging without the appropriate tools. Many small and medium-sized companies have not previously given much attention to the area of sustainability and have no corporate social responsibility (CSR) or sustainability policies. Such companies are found in many different sectors, but a frequent common feature is that their supply chains are both long and complex. MIAFW is now working on the federal government supply chains in the United States, some of the largest in the world, to analyse and purify the supply chains of imported goods.

Governments can take investment risks that typical investors would not consider. The US State Department financially invested in the tech company MIAFW when it was started. Rather than monetary returns, the return on this investment is the positive impact on society. The Made in a Free World’s website was visited millions of times, sometimes with demand so high that the website crashed. The website has grown into a business that helps corporate clients clean up their supply chains, a development that is also in the interest of the government. This is an alternative and interesting way for governments to engage in anti-slavery work.

In addition to further developing their online and mobile tools, MIAFW also works directly with businesses to find the most appropriate response to the results of an analysis. One customer discovered from their MIAFW analysis that there was a high risk of exploitation in their supply chain. They found this hard to believe, since they had a longstanding, good business relation with their suppliers. The owners decided to visit the factories to see for themselves, and they were surprised to find the conditions for the workers to be very poor. MIAFW helped create a plan and a message for this company to move their supplier toward positive change. The message was written in a way that valued the supplier as a business partner and expressed the intention to continue the partnership, as long as some changes were made. The supplier understood and committed to making these changes in order to continue the partnership. Without having to name or shame, these two business partners were able to clean up their supply chain with the help of MIAFW – a good example of a solution developed through new technology driven by social innovation supported by the government.

It is essential that businesses can access tools to assist them in cleaning up their supply chain. However, it is equally important to address the problems on the ground, in the fields and among the workers. With access to technical tools workers need to address and voice their opinions; technology works as an empowering catalyst that drives change from the bottom up.

**FINDING THE RIGHT TECHNOLOGY FOR DIFFERENT
CONTEXTS – A CASE STUDY FROM TAMIL NADU TEXTILES.**

The textile industry in the state of Tamil Nadu, Southern India provides vital jobs and incomes, especially in poorer communities.⁶⁵ However, parts of the industry are also a hotspot

**Technology cannot be applied through
a one-size fits all approach, especially
in contexts where there is limited
technological access.**

132 | for various forms of bonded labour. Tens of thousands of girls and young women have been recruited into employment schemes in the textile industry that result in excessive hours of work and extremely low pay – often with appalling effects on their mental and physical health.

The Freedom Fund, a London based, international non-profit organisation is dedicated to identifying and investing in the most effective frontline efforts to end slavery. In Tamil Nadu, The Freedom Fund works with 14 local organisations, who are present in 405 communities and approximately 50 spinning mills. They promote community protection schemes, help young women develop opportunities for safe and decent work, as well as working with industry and government for better conditions.

They were interested in exploring the use of technology to enable potential workers to learn more about the workplaces that were recruiting them – to avoid trafficking. They had seen the example of *Contratados* – a website which is like a ‘trip advisor’ for Mexican migrant workers offered employment in the US.⁶⁶ Workers can go on the site to check out reviews uploaded by other workers about the pay and conditions offered by specific employers. *Contratados* is helping to level the playing field between employers, recruiters and migrant workers, and better equip workers to avoid fraudulent practices.

The Freedom Fund contracted with Centro de los Derechos del Migrante (CDM), the US based organisation behind *Contratados*, to undertake a study in the Indian communities where their partners were working, to look into whether a similar system could be successful in this context. Over several months, they explored the feasibility of implementing a workers’ rights, information-sharing technology platform for

the textile workers in Tamil Nadu, India. The criteria was: a) the system should assist at-risk youth, parents, workers, and community members in obtaining accurate information on the working environment inside the mills to make better-informed decisions, and b) the system should support an environment in which mill owners are incentivized to provide legally-required decent working conditions.

CDM spoke with approximately 200 workers, 50 community members and 30 entities and individuals. The key findings were that there was insufficient technological access and infrastructure, combined with low literacy – so the system was unlikely to be sufficiently used. They did find that the system would have been relevant in providing information; during the discussions, workers cited a lack of information as restricting their decision-making abilities. They stated that they might have pursued other options, had there been any, if they had known the reality of working in the mills in which they were employed.

However, even with good information, the workers explained that their ability to choose a different mill or other alternative relied on:

- The availability of other options (e.g., other livelihood options, educational scholarships, etc.);
- The availability of open mill positions at a more desirable mill;
- The ability of the worker to travel to work at a different mill, including access to transport.

In this cultural context, young women’s choices are especially limited by lack of transport combined with the fears of their

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134 | families about letting them travel out of the area for work. Having more information would be valuable, but it might not affect choices if there are few alternative opportunities.

On the basis of these recommendations, the Freedom Fund decided not to go ahead with a system similar to Contratados. However, the CDM research confirmed that there is demand from current and future workers to access information that they can use over time to increase their options. The most common topics listed as useful were: workers' rights, government social safety-net schemes, health, skills training, alternate livelihood opportunities, personal safety and women's issues.

The Freedom Fund program had already commissioned the development of a story-based film and toolkit, to be used in adolescent girls groups to help them learn about and discuss these key topics. As a result of the CDM research, they also decided to work with an agency to disseminate SMS messages to the individual group members, using messages strongly linked to the storylines in the film. This would reinforce the ideas and information that the girls and women were learning about in their local groups. These SMS messages are now being piloted in one of the four districts where Freedom Fund partners work, to better understand the uptake of SMS, whether they increase knowledge, and if they help underpin the actions being taken by the participants. Most of the young workers who live with their family and go to work daily have access to a mobile phone in their home, so this may be a more appropriate use of basic and cheap technology in this context.

Technology cannot be applied through a one-size fits all approach, especially in contexts where there is limited technological access. The Freedom Fund demonstrated that researching the exact needs a community has and including the

community in this assessment is essential for developing and implementing a tool that will help the community in need. This is worth the investment. In addition, the Freedom Fund looked at what was already in place before starting to think of other solutions.

DEMOCRATIZING THE WORKERS VOICE

Technology is being used more and more to enable the worker's voice at the bottom of the supply chain. Mobile phones and digital platforms are used to create direct communication between the worker and organisations. The organisation Ulula uses its data-analytics software to enable businesses gain insight into their supply chain and monitor human-rights risks. Their mobile platform provides direct communication between organisations and the workers on the ground.

Several other initiatives are using this technology to give factory workers a voice. LaborVoices from California, helps global brands detect and prevent issues such as fire hazards, illegal migrant labour, wage violations or child labour. They are a mobile-phone based portal that turns workers' feedback into labour-market intelligence. LaborVoices uses crowd-sourced supply-chain intelligence, connecting with workers to gather data. Through gathering intelligence about the factory, the products produced there and other information the workers find important, businesses are provided with important insight into their supply chain. The United States based Good World Solutions is another organisation using mobile phones to give a voice to the workers in factories at the bottom of the supply chain. Their platform Labor Link provides the organisation with first-hand insights into issues on the work floor in these factories through direct worker feedback in the form

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136 | of digital surveys. This model provides global businesses with insights directly from the workers in the factories.

The Issara Institute, also located in the United States, partners with global brands and retailers to identify and eliminate trafficking risks in their supply chains connected to Asia. Using their “Inclusive Labour Monitoring tool”, they use intelligence from workers, businesses, field experts and local communities, to create a comprehensive understanding of what is happening on the ground.

MAST is a multi-stakeholder initiative working for accountable supply chains in Thai fisheries that aims to make the seafood sector free of human trafficking. Their work includes the use of technology to facilitate workers' access to grievance mechanisms, a system in which workers can voice their opinions about working conditions. With the development of other tools to address issues at the bottom of the supply chain, we see the beginning of workers becoming visible. Ultimately this use of technology has the power to connect businesses, governments and stakeholders to those at the bottom of the chain. Enabling direct dialogue between the workers and companies brings a new perspective to addressing human-rights issues such as exploitation and slavery in the supply chain. True ethical business can become a reality by not only including and engaging those who are most vulnerable in the conversation, but also including them in creating sustainable solutions to address these issues.

ISPY FROM THE SKY

For workers' voices to be heard, it is essential that we know where the workers are located. The fishing industry and brick kilns in India are often in remote areas and sometimes dif-

137 | ficult to locate. Digital technology provides a way to locate these places so slaves become visible and so that their voices can be heard.

In 2007 one of the authors of this book, Kevin Bales, published *Ending Slavery: How We Free Today's Slaves*. It was an early blueprint for disrupting and ultimately eradicating modern slavery. The book set out possible actions that governments, businesses and others, might take to fight slavery. One set of recommendations focussed on the use of satellites, and was especially aimed at the United Nations space agency UNOOSA (the UN Office for Outer Space Affairs). In the book Bales explained how the UN Space Agency had used satellites to:

... generate both maps of malaria-afflicted areas and good directions to reach the almost inaccessible rural areas where treatment is needed. A project using communications satellites in West Africa led to quick eradication of the larvae that spreads the river blindness disease—the leading cause of preventable blindness in the world. In this project 100,000 people were saved from going blind, 1.25 million were cured, and millions more were protected from infection. The people were saved by the medicine that was given, but the satellite images helped to effectively target the work.

And then he went on to note that:

Proper and efficient targeting is what space technology can bring to the fight against slavery. Slavery is often hidden away in remote, unmapped areas, but it is hard to hide from satellites. Slaves are used to destroy the environ-

ment—through logging and strip-mining especially—and the scars of this destruction are visible from space. In Brazil, India, West Africa, and other parts of South America, South Asia, and Africa, the telltale signs of slavery can be seen from above.⁶⁷

As with many ideas, there was a time lapse between the seed being planted and it coming to fruition. After years of reaching out unsuccessfully to satellite companies, Bales moved to the University of Nottingham and engaged with colleagues in the Geospatial Institute based there. The scientists of the Geospatial Institute are some of the most expert interpreters of satellite imagery in the world, and were intrigued by the idea of seeing slavery from space. In a pilot test, satellite images were analysed to identify fish processing camps illegally carved into the Sundarbans Forest of the UNESCO World Heritage Site on the coast of Bangladesh. These camps were known to use enslaved children to process fish offloaded from small fishing boats. Based on a satellite image of a camp located by Bales when he was in Bangladesh, five more previously unknown slave-using camps were identified, and their locations were made known to the Bangladesh government. Additionally, because satellite images now go back more than twenty years, it was possible to trace the history of such camps around the World Heritage Site as they moved in response to sea level rise and other factors. For the first time, it was proven that satellites could find slavery, and even trace its steps in the past. A second project soon got underway to identify and locate brick kilns across the ‘brick belt’ in India, Pakistan, and Nepal. Brick kilns are also well known locations for slavery. Entire families are controlled through debt bondage.

If it were not for these slaves and the hardware they produce, there would be no global digital reality.

But while slavery is known to exist in brick kilns, no one knew how many total kilns there were, nor had their precise locations been logged. To help carry out a survey of the vast area of the brick belt, the research team turned to crowd sourcing using the scientific website Zooniverse. Thousands of volunteers were trained on the website to search through satellite images and identify and mark brick kiln sites. In turn, the work of the volunteers helped to train an artificial intelligence program that could then identify kilns without human oversight. The result revealed the location of thousands of kilns which can now be inspected to determine the extent of slavery that may be present⁶⁸ – and hopefully, ultimately free slaves.

A PARADOX

Essentially all industries with long supply chains that stretch back to raw commodities risk that their products are touched by slavery. In fact, the tech industry itself is a major concern in this respect. One obvious example is the massive production of hardware, which is largely based on cheap labour in Asia as well as the use of conflict minerals that come from the hands of slaves. This aspect is an important link between slavery and technology. It shows that the tech industry is not only a font of innovative and futuristic solutions to our problems, but is also incentivised by high profits to oppress its workers. Professor Jack Linchuan Qiu at the Chinese University of Hong Kong sums it up well in his book *Goodbye iSlave – a manifesto for digital abolition*.

Welcome to a brave new world of capitalism propelled by high tech, guarded by enterprising authority, and carried forward by millions of laborers being robbed of their souls. Gathered

*into mammoth factory complexes and terrified into obedience, these workers feed the world's addiction to iPhones and other commodities – a generation of iSlaves trapped in a global economic system that relies upon and studiously ignores their oppression.*⁶⁹

In his book, Qui examines the labour exploitation taking place in the production of hardware for the tech industry and uses the Taiwanese company Foxconn as his main example. Foxconn was previously known for being one of the largest producers for Apple. Unfortunately, they are also known for their extremely harsh and inhumane labour regimes.⁷⁰ There is no doubt that the tech industry has serious cleaning up to do, and may be as guilty of slavery as any other industry. It is a paradox in our search for ways that technology can contribute to eliminating slavery, that at the bottom of the supply chain of our technical devices people are kept and exploited as slaves. If it were not for these slaves and the hardware they produce, there would be no global digital reality.

Breaking Chains with Blockchain?

I've been at this 35 years, writing about the digital age. I've never seen a technology that I thought had greater potential for humanity.⁷¹

Don Tapscott – CEO Tapscott Group

Imagine an invention with the potential to change the world as we know it. A tool that will restructure everything we do, from the way we trade to the ways we address injustice. Does such a tool already exist? Some say it does. They call it the blockchain and describe it as “one of the most fundamental inventions in the history of computer science”, and “at the heart of the fourth industrial revolution”.⁷² The best comparison, if measured in potential for societal impact, is the invention and expansion of the Internet in the last decades. In this chapter, we explore the potential applications and challenges blockchain technology poses to human-rights issues such as slavery.

WHAT IS BLOCKCHAIN?

Blockchain is a decentralised database that stores a registry of transactions (and assets) across a peer-to-peer network. Transactions in the network are secured through cryptography, time-stamped, and stored in blocks of data that are verified across participating nodes. Each block is chained to previous blocks back to the “genesis” or first block of data and this creates a permanent, immutable history of events that is replicated and stored on each participating node. It is very

hard to change this history, since there is no central authority or control for the network.⁷³

PEER-TO-PEER TRADING

Blockchain was created as the enabling structure behind the digital currency Bitcoin. It was made known in 2008 in a white paper published by an unknown author (whether a group or an individual is not known) who goes by the alias Satoshi Nakamoto. The paper, titled “Bitcoin: A Peer-to-Peer Electronic Cash System”, introduced Bitcoin as an alternative digital currency in response to the economic crash of 2008. Bitcoin is an open-source cryptocurrency – also known as digital peer-to-peer cash. But what exactly does that mean?

Historically, everyone traded peer-to-peer; X wanted apples from Y and traded potatoes in return. The value for the apples compared to potatoes was agreed upon by the individuals. There was no need for a centralised banking system as there was no money. With the introduction of money came the need for a value dominator, often gold or silver, so everyone agreed upon the value of the coin. At this point there were several banks that issued money, but this started to change not long before the industrial revolution. If you ran a factory in Manchester that imported cotton from America it was risky to send notes or coins over the ocean for every transaction, and this led to the introduction of large-scale credit to pay for investments and goods. That meant that trading changed to a more and more centralised system where banks could approve and execute transactions on behalf of their clients. As a result, banks and financial institutions have become large and powerful actors in the world economy and effectively been allowed to do what they want with very little accountability.

144 | Nakamoto released Bitcoin with the hope of taking the world back to peer-to-peer trading, but now with digital currencies instead of metal coins and paper bills. Instead of trusting a third person, bank, or institution (the financial crisis having revealed many examples of untrustworthiness), people would now trust the technology – the blockchain. Bitcoin has grown to become the largest cryptocurrency in the world, but is far from the only one. Cryptocurrencies have some interesting and relevant effects on the issue of slavery (the most evident being their tendency to be used by criminals), yet it is the blockchain technology that has real human-rights potential. Therefore, we leave Bitcoin at this point and focus on the blockchain.

BLOCKCHAIN BASICS

The easiest way to think of blockchain is as a spreadsheet saved on many computers in a network. The rows of information are visible to everyone (on every computer) but no one can make changes to the rows that are there. The only option is adding new rows, or blocks in this case, with new or additional information. The network must verify new rows before they are updated on all computers. Once data is added it stays there forever, forming a chain of blocks with information which each contain a reference to the previous block – hence the name blockchain. It is basically an accounting ledger. There is no way to erase or change the sum paid for a product in your accounting.

By scrolling up through the spreadsheet you can read all the previous entries, providing the complete history of all transactions that are made, making it completely transparent to everyone in the network. This transparency is one of the key characteristics of the blockchain technology that makes it so interesting. Transparency makes it pointless to try hiding

or tampering with the information. This makes it a trustless system – a system that is not dependent on trust between people. Power is shifted from the banks back to the individuals taking part in building the chain, which democratises access to the true information.

“Power to the people” was an important objective of the original developers of the blockchain. A blockchain can either be public or private which refers to ownership, and it can be a permissioned or permissionless chain referring to who can access the network. Undoubtedly, the original idea of blockchain was of a public, permissionless blockchain, open to everyone. In moving away from this characteristic, the blockchain loses perhaps its most unique and important facet. While the original intentions were to support the end users (peers), attempts have emerged to try and leverage the technology to empower the very banks and corporations that Bitcoin creators attempted to bypass, another example of Kranzberg’s law.

Essential to using blockchain beyond cryptocurrency is the idea of smart contracts. Nick Szabo – computer scientist, law scholar, and cryptographer – thought of these back in 1997, but did not develop the idea further. In 2013, a 22-year-old computer programmer named Vitalik Buterin created Ethereum – the most commonly used blockchain for smart contracts today.^{vi} Smart contracts are in many ways the same as any other contract, but digitised and verified with the blockchain, and they have the unique characteristic that they are automatically executed when certain conditions are met. For example, a postal package can be paid for when the delivery is made. If the delivery is not made, the funds will not be released. It provides transparency, it is decentralised and immutable which makes it a safe option and difficult to corrupt. It helps the user

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^{vi} Bitcoin also has a smart contract capability using its bitcoin script programming language. Albeit limited, it is still powerful enough to do much of what Ethereum can, and with lower fees. See: <https://en.bitcoin.it/wiki/Contract>

146 | to exchange money, property, shares, or anything of value in an immediate, transparent, and conflict-free way.

Smart contracts replace the middleman or third party, such as a lawyer, saving costs and time. No middleman is required to decide and enforce the penalties around an agreement, because the parties decide the penalties together beforehand and smart contracts enforce the obligations, automatically accessing the necessary funds.

FROM BITCOIN TO HUMAN RIGHTS

If blockchain has the power to restructure everything we do, it must be applicable to more than digital currencies. Already, significant efforts have been put into using blockchain in e-government and institutions – such as the encryption and control of the national census in Estonia. Researchers have also begun exploring the use of blockchain technology for human-rights issues. Authors Dan and Alex Tapscott argue there is great potential for such use because:

this new digital ledger of economic transactions can be programmed to record virtually everything of value and importance to humankind: birth and death certificates, marriage licenses, deeds and titles of ownership, educational degrees, financial accounts, medical procedures, insurance claims, votes, provenance of food, and anything else that can be expressed in code.⁷⁴

Considering the list of possible blockchain applications above, blockchain's applicability to slavery becomes evident. There are many root causes to the issue of slavery, some of which include political instability, militarism, conflict, displacement

of people, poverty, the lack of opportunity, and governmental corruption.⁷⁵ Isolation from social protection, health care, and infrastructure and being stateless or paperless can be added to this non-exhaustive list.⁷⁶ It is reasonable to assume that where the implementation of blockchain technology addresses any of these root causes, it will address slavery as well.

Take for example the recording of identity such as birth certificates. According to the World Bank, about 1.1 billion people in the world do not have an officially recognised document to prove their identity.⁷⁷ “*The Protocol to Prevent, Suppress and Punish Trafficking in Persons Especially Women and Children*”⁷⁸ (ratified by many countries) describes in articles 12 and 13 the importance of documentation and identification to hinder human trafficking and the need for such documentation to be trustworthy. If blockchain can be used to make a system that provides, verifies, and secures such essential personal identification worldwide, it could make a major contribution to ending slavery. Police all around the world confirm that the lack of ID is an important push factor for human trafficking today.⁷⁹

Corruption is another major driving force of slavery, and the use of blockchain can reduce the power of the corrupt. Paper records are highly vulnerable to manipulation (or disappearance) by corrupt government officials. Since blockchain records are unchangeable, using blockchain to digitalise, for example, voting records and land ownerships records will have anti-corrupting effects.

The Swiss start-up Agora has built the world's first blockchain voting platform, with the goal of increasing the transparency of elections.⁸⁰ They created a blockchain-based voting ecosystem allowing anyone anywhere to vote online from a

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digital device in a fully secure way. On March 7th 2018, Sierra Leone had its presidential election and Agora demonstrated to the government what blockchain technology can do for future elections.⁸¹

Blockchain has also been used to record land titles. A project by Texas-based tech firm Factom⁸², provides a system run on blockchain technology for land registration in Honduras, one of the poorest countries in South America. The country has struggled with corruption in the registries of landowners, which the use of blockchain could solve.

In a previous chapter, we discussed how technology is used today to address slavery in the supply chain. Blockchain technology has increasingly been tested for enhancing transparency in supply chains as well. Increased transparency makes it harder for a company to ignore slavery in the first tiers of production, like mining, farming, fishing, and the production of basic components. In the West, people are and have been oblivious to the fact that the hands of slaves have touched a significant proportion of consumer goods somewhere in their production. Many believe that if consumers realise the relatively short distance between the consumer product in their hand and the slave that made it on the other side of the world, they would stop buying the product and put pressure on businesses to guarantee slave-free production. As awareness of this grows, pressure is increasingly put on businesses by governments creating laws and regulations to ensure supply-chain compliance. As mentioned, the most ambitious of these is the British Modern Slavery Act of 2017 that requires businesses to actively address slavery in their supply chains. Unfortunately, a recent report found that 40% of the top 100 suppliers in the

If blockchain can be used to make a system that provides, verifies, and secures such essential personal identification worldwide, it could make a major contribution to ending slavery.

United Kingdom failed to meet the basic legal requirements of the Modern Slavery Act for reporting on their supply chains.⁸³

A six-month long investigation by the Guardian revealed that major retailers in the United States, Britain and Europe are selling seafood from Asian seafood producers known to hold people as slaves and force them to work in horrific circumstances.⁸⁴ Even though there are technical solutions used to address supply chain transparency it still has a long way to go, and businesses need better tools for supply chain management. With transparency as a key feature, blockchain might have something to offer.

BLOCKCHAIN IN SUPPLY CHAINS

Tuna fish tag – from Shore to Plate

The buying and selling of tuna fish is typically tracked by paper records and a simple tag on the fish for identification. The tag does not contain much information, and is easily replaced if so desired. In contrast, a digital tag can contain much more detailed information and, if saved in a blockchain, it cannot be altered or lost. A London-based start-up called Provenance ran a pilot project using specially developed software that stores identity, location, material attributes, certifications and audit information with a specific item or batch ID. The data was stored in an immutable, decentralised, globally auditable blockchain format that protects identities by default, allowing for secure data verification.⁸⁵ Local fishermen were taught how to register their catch by SMS. Identification of the tuna's origin was then sent on to the supplier who received the actual fish. All steps in the supply chain were recorded and stored with time stamps in the blockchain. As a result, the origin and journey of the tuna can be accessed and verified by buyers

and consumers in the network. The fact that blockchain creates transparency and traceability to the product from shore to plate is the beginning of transparent supply chains giving consumers insight into where their food, clothing, carpets, iPhones or coffee comes from.

Coffee

The world drinks 14,000 cups of coffee every second. The price of coffee has increased over the years, but not much of the money goes to coffee farmers and workers. Bext360, a Denver-based for-profit organisation, tracks and blockchains coffee and other goods through every node in the supply chain. They hope to digitally automate the supply chain by developing software that uses machine vision – image-based automatic inspection that allows the computer to see – combined with artificial intelligence and blockchain payments.⁸⁶ This platform provides a place for farmers and consumers to be part of the journey of the goods they produce or consume. This system represents a way to improve the global supply chain for agricultural products by creating a way to track and trace goods. They are currently working on a machine that will measure the density, size and colour of the coffee cherry, attributes that determine the quality of the coffee, which in turn gives a fair and automatically regulated price that will be paid directly to the farmer using blockchain. Corruption is rooted out of the system and farmers get a fair price for their harvest.

Blood diamonds

The diamond industry is known for 'conflict diamonds' or 'blood diamonds' which are not only illegally mined, but also illegally sold, and whose profits are known to finance rebel

152 | movements and dictatorships (as well as criminals) in Africa.⁸⁷ The supply chain for diamonds is home to more corruption than most. The start-up Everledger uses blockchain technology to track and trace diamonds. “The Diamond Time-Lapse Protocol” is a traceability initiative built on a blockchain-based platform.⁸⁸ Using blockchain technology, all industry participants including manufacturers, retailers and consumers are able to check the journey of their diamond. It connects manufacturer and consumer and provides transparency – something the industry desperately needs.

IDENTITY FOR ALL?

Many initiatives are emerging and there will be still more when this book is published.⁸⁹ But while blockchain is contributing to anti-slavery solutions it is no silver bullet on its own, it can reach almost everywhere but still has some drawbacks. One challenge is that blockchain, when used with non-digital objects, needs human beings to enter the data. And often the most difficult point to achieve data entry is at the very first step on the supply chain. The supply chain begins at sea when the fish is caught, on the remote farm where the coffee is harvested, or in the diamond mine in a warzone controlled by rebel soldiers. This first tier in the supply chain is where slavery is most likely to be found, and so far, it is also the most difficult place for blockchain to reach.

The idea of using blockchain technology for digital identification has become popular and widespread. It is helpful to realise, though, that not all developers are talking about the same thing, and not all the possible uses are applicable to problems of slavery and human rights. Where some focus purely on creating digital IDs for online use or inside organi-

sations, others focus on creating a system for official IDs that are global and self-sovereign, i.e. controlled by the individual.

Some countries have also started moving their official registries to blockchain-based technology, opening the possibility and capacity for e-citizenship, e-voting, and other civic duties and privileges accessed through blockchain registration. Estonia is the first country that officially stores the identification records of its citizens with blockchain technology. Dubai has set the goal to secure all government documents using blockchain technology by 2020 and India is considering moving its already existing digital registries onto blockchain technology.⁹⁰

Even though blockchain implementation in government registries might help to reduce corruption in a country, and thus diminish a contributing factor to slavery, the idea of global and self-sovereign personal identities may have the greatest impact on reducing slavery. Having an identity is a fundamental human right, yet as previously mentioned, today over 1 billion people live without such documentation.⁹¹ As a result they are not able to prove who they are, which makes them extremely vulnerable to exploitation, control, violence and enslavement. Identity is also normally required for access to health care, insurance, licenses, bank accounts, or even mobile phones.

Several initiatives are working on finding ways to use blockchain to create officially and globally recognised identification documents for paperless people. There are projects, organisations, campaigns and start-ups working towards this goal, such as the United States based ID2020, the Sovrin Foundation and the World Identity Network (WIN).⁹²

The World Identity Network promotes the need for a global ID, using human trafficking as their main justification. They are working with the government of Moldova, several

UN offices and tech-developers to find a way to provide digital IDs for paperless children in Moldova at risk of being trafficked. They initiated a competition in which several groups of developers presented their suggestions for the best way to address the problem. The competition resulted in three different solution concepts, each of them identifying many unanswered questions and challenges. The basic idea is to register biometric markers (fingerprints, iris scans) of around three hundred and fifty thousand children in Moldova. This may sound daunting, but many governments already have such data about their citizens. When a child arrives at the border, he or she will be checked against the registries and a request for permission to leave the country is sent to the mobile phone of their caregiver to be confirmed or rejected. This control mechanism will make it harder to traffic children from the country and hopefully reduce the number of children trafficked out of Moldova.

Among the many unanswered questions that came out of this competition were topics such as data entry, privacy, corrupted officials, data erasure (i.e. the right to be forgotten), safe storage of the data, and so on. Clearly, the project is still at the exploratory stage, but WIN is committed to finding reliable and unbiased guidance to shape these systems. As these initiatives indicate, there are many things that blockchain can do, yet there is also much that it cannot do. When applied to human-rights issues such as slavery, the technology faces challenges that need to be addressed.

THE CHALLENGES WITH BLOCKCHAIN

Blockchain is said to be ‘trustless’, and yes, as a decentralised, immutable and permission-less ledger, there is no need

for trust between humans other than trusting the technology. However, this is particularly true for a blockchain-based system created to store, secure and trade digital value. The value is in the transaction, and the transaction is the true value – like two sides of a coin. When blockchain is used to store data about real-world entities such as humans, diamonds, or tuna fish, the need for trust is not eliminated. The data needs to come from a source outside the blockchain, conventionally referred to as an ‘oracle’. The oracle is then a representation of the object, and a human is needed to make sure the data entry matches this real-world object. You can rely on the data to be true to the data entry, but you must trust the human who made the entry that the data is a true representation of the real-world object. Complicated? Let’s have a closer look.

The Provenance project involves tracking and tracing tuna fish. How do we know that the fish was not caught by a child slave or a worker that is living in extreme exploitation? Currently the blockchain only becomes active when the fish is registered and not before. Blockchain cannot know who worked on the boat, who took the fish from the net, or how much they were paid; it cannot even prove where the tuna was taken out of the sea. You must trust the person who registers the fish to be truthful. Whenever humans are involved there will be an element of trust. This is one of the major challenges that we face when applying this technology to physical goods and humans.

The only way blockchain can ensure that the fish has not been caught by a slave is if someone is there on the boat to see and record who catches the fish and verifies that the workers are free. And if this third person must be trusted, who gives him or her authority? What incentive does this person have to

record the truth? Telling the truth does not always make the most money. What is to stop this third person from bending the truth to increase her own profits? Some argue that a blockchain-based labour market can hire and pay the local community to do audits randomly. However, that is still far into the future. Clearly, blockchain can log the journey from registration to plate, with transparency and immutability, but the challenge is how to document what happens pre-registration. Today you must simply trust third-party-certifications, and the workers and managers of the first tier to enter valid data. Even though this is not a limitation for blockchain's original purpose, a digital peer-to-peer network, it does become challenging when moving away from the digital world into the world of real products.

There are other ethical implications for the implementation of blockchain projects. In the Moldova project, the poorest and most vulnerable people – paperless children – are those who carry the burden of risk. Why are UN offices and tech companies agreeing to test blockchain identity on consent-less children? Is it simply unthinking eagerness to solve a serious social problem, or be involved in technological development, driven by the hype of blockchain implementation, or is it a necessary step towards the higher goal of global IDs?

The head of the Moldovan anti-trafficking agency, has argued in an interview with the Thomson Reuters Foundation,⁹³ that the project is not addressing the true problems of Moldovan trafficking, highlighting that relatively few children are trafficked out of the country and that in some cases parents even play a part in the trafficking of their own children. Additionally, we can imagine traffickers being forced to find new ways of concealing the children at border-crossings, making

the situation even worse for the affected children.

Does the global community consider the chance of increased risk for these children an acceptable price for achieving global IDs? Finally, the interview points out that the project is guided and supported by the Ministry of Internal Affairs, which has been put under pressure for not doing enough to combat human trafficking in the country.⁹⁴ In the U.S. Department of State “*Trafficking in Persons Report – 2017*”, Moldova was downgraded from tier 1 to tier 2 and risks losing international aid if downgraded further.⁹⁵

TO REGULATE OR NOT TO REGULATE?

As with many emerging technologies, there is a lack of consensus regarding the definition of blockchain and its terminology – especially regarding a legal definition, which is lacking altogether. It is said, jokingly, that efforts to create common terminology for this kind of new technology can go through the following design cycle:

- There are three competing systems of definition for a new digital entity.
- An organisation or government notices the lack of consensus, and constructs and publishes a *superior, comprehensive, definitive* system of definition for the entity.
- There are four competing systems of definition for the new digital entity.

Existing definitions share key elements, yet differ on other central aspects. Even the names vary greatly. Associate Professor Walch at St. Mary's University School of Law points out how Blockchain, or the blockchain, is referred to as ‘dis-

tributed ledger technology' (DLT), 'shared ledger technology' (SLT), 'consensus ledger technology', 'mutual distributed ledger technology', or as a 'decentralised' or 'distributed' database. There are 'public' or 'permissionless' blockchains and 'private' or 'permissioned' blockchains, used by 'validators', 'nodes' or 'miners', who exchange 'digital currencies', 'virtual currencies' or 'cryptocurrencies'.⁹⁶ This makes it increasingly difficult to govern the technology, as is the case with many technologies. Additionally, the diversity of the terminology can cause 'perverse innovation', in which developers use technology and innovation to find legal loopholes to avoid regulation.⁹⁷

Many blockchain enthusiasts believe that for the blockchain to function at its best it must remain untouched by regulators – otherwise it becomes centralised and it will lose its revolutionary potential to give power to the people. This takes us to the essential question of when, if ever, it is necessary to regulate blockchain technology and how best to execute such regulations. There is no doubt that in order to create effective legislation and regulation, definitions must first be established. Diverse and rapidly changing technologies like blockchain often cause this type of legal ambiguity. If regulations are successfully in place, they will play a crucial role in forming the future of blockchain technology.

Enthusiasts are afraid that regulations will leave blockchain wing-clipped, while governments are afraid of the potentially disruptive consequences of letting loose such powerful technology. Werbach, a Professor of Legal Studies and Business Ethics from the University of Pennsylvania, states that: "too much law could stifle the blockchain or drive it underground; yet so could too little law".⁹⁸ He argues that the law and distributed ledger technologies like blockchain need each

Why are UN offices and tech companies agreeing to test blockchain identity on consent-less children?

other and are not necessarily enemies. It may be that a disinterested government with no stake in any particular blockchain system or currency would be able to legislate or regulate its use without disrupting the equality that the network provides, and without creating a centralised system. After all, a non-corrupt legislating government is very different from the enormous profit-driven financial institutions, such as the banks that Satoshi Nakamoto wanted to avoid dealing with.

One of the advantages of blockchain is that it is much easier to audit than the shady, private dealings among and within the institutions that, for example, fuelled the 2008 financial crash. How then do we square these facts with Nakamoto's vision of a network where everyone is equal and no authorities are in place? If one actor creates the rules or regulations, then we may quickly find ourselves back at the centralised system that he wanted to avoid – or would an honest and transparent centralising authority truly be a welcome player?

It is difficult to imagine a world without the need for regulations and law enforcement, even with extensive blockchain implementation throughout society. If no one has the ability or authority to intervene in cases of exploitation, then the victim is left with no defence. Consider for example, images of child sexual abuse, which we see is a large and increasing trend in online slavery. Recently a group of academics studying cryptocurrency at RWTH Aachen University in Germany discovered disturbing imagery while analysing the quantity and quality of non-financial Blockchain data in Bitcoin.⁹⁹

Bitcoin allows a user to connect a short message or a file with every transaction. The researchers found links to URLs containing 1600 files unrelated to cryptocurrency within which most content was harmless. However, some of these

files did have links to child exploitation material. Because there is no legislation in place for Bitcoin or Blockchain technology, there is at this point not much that can be done about those linked files. In some countries, like the UK and Germany, the law suggests that this kind of illegal content could make possessing blockchain itself illegal, which would likely become a significant challenge to further developments of Bitcoin and other cryptocurrencies.

It is worth noting that if blockchain is going to have an effect on the lives of people living in exploitation and slavery, these people will likely need access to technology. This is a challenge, as many countries do not have access to fast and reliable Internet and some do not even have mobile devices or telecommunication. The mining activity and processing power blockchain requires in verifying all its transactions today makes its use in low-technology contexts problematic. These unconnected countries are also the countries with some of the highest concentrations of slavery, questioning the realism of widespread blockchain use in anti-slavery work in the near future. Developments do however happen quickly – the Internet expanded fast – and in the meantime blockchain could be applied in specific areas where it seems most applicable and useful.

Blockchain technology clearly has potential to assist global anti-slavery efforts, through providing digital identification, eliminating corruption and ensuring the transparency of supply chains – all key elements of slavery. Yet most ideas about the use of blockchain technology are still closer to utopian dreams than reality. For blockchain to become an integrated tool in anti-slavery work, it must first become an integrated, and potentially legislated, part of global society. Professor Kranzberg argues that the true effects of technology, both

positive and negative, can vary significantly from the intended effects. This is clearly relevant in the context of blockchain and anti-slavery work. The where and when of introducing technology are important factors in determining the effects it will have and who its beneficiaries are. It is clear that despite the apparent potential of blockchain technology, we cannot foresee the consequences of large-scale implementation.

For these reasons, it is important to maintain a critical attitude to the implementation of blockchain technology within anti-slavery work. We must make sure we are not carried away by the hype, and we must never lose our focus on the ones that are at risk.

Enthusiasts are afraid that regulations will leave blockchain wing-clipped, while governments are afraid of the potentially disruptive consequences of letting loose such powerful technology.

Conclusion

To write a book about Slavery and Technology at the beginning of the 21st century is a risky business. This is not an opinion, but a fact demonstrated by the ‘laws’ of technological change. Back in 1965, Gordon Moore, one of the early scientists involved with building computers, published research showing that the processing power of computers was doubling every year – an assertion now known as *Moore’s Law*. Since the ’60s the rate of computing power growth has slowed, speeded up again, and slowed again, but the sheer muscle of computing has never stopped increasing. Assuming the current rate of growth, in ten years our computers, the web, our phones, the power of artificial intelligence, the complexity of robots, the digital systems that control our bank accounts, our communication and correspondence, our archived histories, our inventories, even large parts of our love lives, will be ten times faster, deeper, more clever, more complex, and more powerful than they are today.

This also means that criminals who use digital technology to rob, steal, extort, abuse, exploit and enslave will have weapons that are ten times more powerful than those available today. And, with luck, those who are dedicated to ending slavery, to fighting crime, and to protecting the vulnerable will also have more powerful tools to resist those who use technology to control, harm, and exploit others. And this ten year period might as well be a century in terms of how accurately we can imagine the ideas and changes ahead. All we can be certain of is that we are on the brink of technological develop-

ment that will be so significant we cannot predict its impact. Today, for example, there is a great deal of discussion about ‘artificial intelligence’ despite the fact that it doesn’t properly exist yet. Yes, digital technology can use algorithms to shape programmed responses to your specific patterns of requests or choices or purchases, but that is not a true ‘intelligence’. It does not begin to resemble the memory, calculation, and processing we think of as ‘consciousness’, even in limited areas of activity.

To the best of our understanding, for a computer’s ‘thinking’ power to equal one-tenth of a human brain would require it to be able to process information and make connections at a rate of around 12 *petaflops*^{vii}. The world is nowhere near that speed in 2018, but the exponential growth in computing power means the first crude artificial intelligence, working at less than one petaflop, should be online in 2028. Artificial intelligence with 10% of human brain-power is expected in 2034, and from that point the growth curve turns nearly vertical. The potential for artificial intelligence is enormous, and just like every other technological breakthrough, from iron swords to steam engines to computing, it will be used for good and bad, in ways (perhaps, for the first time, *by* the technology itself) that are very difficult to predict. Books and articles in the 19th century predicted how aviation would change the world – and were, from today’s perspective, laughably wrong, just as we may be when we think of our own digital future.

We have written this book in the full knowledge that it may soon be an antiquated and arcane example of ‘early 21st century thought’. We realise that it may well be transcended by a sudden paradigm shift, such as artificial intelligence or perhaps biologically-integrated computing that makes cyber-

^{vii} One petaflop is a unit of computing speed equal to one thousand million million (10¹⁵) floating-point operations per second. For what it is worth, that’s the same as a quadrillion (thousand trillion) floating-point operations per second.

netic organisms of many of us – innovations that will relegate this work to the scrap pile of recent technologies. A twenty-year-old person is young and full of promise; a twenty-year-old personal computer is ancient and useless. This then is a book about *now*, and now is the time we have to take a more conscious and thoughtful control of both how we use technology and how we want technology to be used in our lives, our families, our communities, our world.

Now is a good time. Now is when we need to take seriously the use of technology to enslave and exploit; now is when we need to coordinate and build our response to the patently evil uses of digital technology and to cultivate its power to help bring slavery to an end. Now is when we must think carefully about our casual, almost random, consumption of all that the web offers. Our tech-saturated world, our brilliant new technologies can drive harm or help, promote freedom or slavery, bring fulfilment or degradation, offer us hope for the future or condemn our neighbours and possibly ourselves to disaster. Now is the time for us to choose.

Acknowledgements

Many people who have helped us explore this topic are mentioned in this book. We want to express our gratitude to all the interviewees; slavery survivors, experts, professionals, enthusiasts, start-ups, businesses, NGOs, and safe houses. We thank Mary Jones for the early editing of this book and Gabriel Bales for the thorough and skilful editing of these pages and the essential feedback he provided as the process evolved. Thank you to For Freedom and their continuous support in our work against slavery. We also thank the Think Tank Skaperkraft for the opportunity to write this book. Lastly, our gratitude goes out to our families, as writing this book has truly been a family effort.

Bellagio Harvard Guidelines

Bellagio-Harvard Guidelines on the Legal Parameters of Slavery

We, the Members of the Research Network on the Legal Parameters of Slavery,

Recognizing that there has been a lack of legal clarity with regard to the interpretation of the definition of slavery in international law;

Conscious that the starting point for understanding that definition is Article 1(1) of the 1926 Slavery Convention which reads: ‘*Slavery is the status or condition of a person over whom any or all of the powers attaching to the right of ownership are exercised*’;

Recalling that this definition is reproduced in substance in Article 7(a) of the 1956 Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery;

Also noting that the 1926 definition of slavery is once again reproduced in substance in the definition of enslavement found in Article 7(2)(c) of the 1998 Statute of the International Criminal Court and developed in more detail in the secondary legislation of the Court, in its Elements of Crimes;

Bearing in mind the provisions in international human rights law regarding slavery within the 1948 Universal Declaration and 1966 International Covenant on Civil and Political Rights; as well as the provisions regarding slavery in regional human rights conventions of the African, European, and Inter-American systems;

Considering the inclusion of slavery as an enumerated type of human exploitation in both the 2000 United Nations Palermo Protocol on Trafficking in Persons and the 2005 Council of Europe Convention on Action against Trafficking in Human Beings;

Mindful of the pronouncements and case-law related to slavery of international, regional and domestic courts;

Having met to consider the issue at the 2010 symposium entitled: ‘The Parameters of Slavery’ at the Rockefeller Foundation’s Bellagio Conference Centre in Bellagio, Italy; having further deliberated in 2011 at a meeting under the auspices of the Harriet Tubman Institute for Research on the Global Migrations of African Peoples, York University, Canada; and came together once more at a 2011 symposium entitled: ‘The Legal Parameters of Slavery: Historical to the Contemporary’ at Harvard University, under the auspices of the Charles Hamilton Houston Institute for Race and Justice, Harvard Law School; the Harvard Sociology Department; the W.E.B. Du Bois Institute;

Recommend the following Guidelines related to the legal parameters of slavery:

170 | **GUIDELINE 1 – THE LEGAL DEFINITION**

The legal definition of slavery in international law is found at Article 1(1) of the 1926 Slavery Convention, which reads: ‘Slavery is the status or condition of a person over whom any or all of the powers attaching to the right of ownership are exercised’.

GUIDELINE 2 – THE EXERCISE OF THE POWERS ATTACHING TO THE RIGHT OF OWNERSHIP

In cases of slavery, the exercise of ‘the powers attaching to the right of ownership’ should be understood as constituting control over a person in such a way as to significantly deprive that person of his or her individual liberty, with the intent of exploitation through the use, management, profit, transfer or disposal of that person. Usually this exercise will be supported by and obtained through means such as violent force, deception and/or coercion.

GUIDELINE 3 – POSSESSION IS FOUNDATIONAL TO SLAVERY

Where there is a right of ownership in respect of a thing, ownership implies a background relation of control. That control is the power attaching to the right of ownership known as possession.

Possession is foundational to an understanding of the legal definition of slavery, even when the State does not support a property right in respect of persons. To determine, in law, a case of slavery, one must look for possession.

While the exact form of possession might vary, in essence it supposes control over a person by another such as a person might control a thing. Such control may be physical, but physical constraints will not always be necessary to the maintenance of effective control over a person. More abstract manifestations of control of a person may be evident in attempts

to withhold identity documents; or to otherwise restrict free movement or access to state authorities or legal processes; or equally in attempts to forge a new identity through compelling a new religion, language, place of residence, or forcing marriage.

Fundamentally, where such control operates, it will significantly deprive that person of his or her individual liberty for a period of time which is, for that person, indeterminate.

Cases of slavery are to be distinguished from those where, though there has been control exercised, it does not constitute control tantamount to possession, such as where employers make legitimate decisions about the management of workers.

Possession is foundational in that, not only is it a power attaching to the right of ownership, it also creates the factual conditions for the exercise of any or all of other powers attaching to the right of ownership, such as those set out in *Guideline 4*.

GUIDELINE 4 – FURTHER EXAMPLES OF POWERS ATTACHING TO THE RIGHT OF OWNERSHIP

Where a person controls another such as he or she would control a thing owned, such possession makes possible the exercise of any or all of the powers attaching to the right of ownership.

Correlatively, the exercise of any or all of the powers attaching to the right of ownership may serve to indicate the presence of control of a person tantamount to possession, and so provide evidence of slavery.

The following are further examples of powers attaching to the right of ownership:

a) Buying, Selling or Transferring a Person

Buying, selling or otherwise transferring a person may

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provide evidence of slavery. Having established control tantamount to possession; the act of buying, selling or transferring that person will be an act of slavery.

Evidence of slavery may also be found in similar transactions, such as bartering, exchanging, or giving or receiving a person as a gift, where control tantamount to possession has been established.

b) Using a Person

Using a person may provide evidence of slavery. Having established control tantamount to possession; the act of using that person will be an act of slavery.

Evidence of such use of a person may include the derived benefit from the services or labour of that person. In such cases, a person might be used by working for little or no pay, utilised for sexual gratification, or used by providing a service.

c) Managing the Use of a Person

Managing the use of a person may provide evidence of slavery. Having established control tantamount to possession; the act of managing that person will be an act of slavery.

Evidence of such management of the use of a person may include indirect management such as a brothel owner delegating power to a day manager in a situation of slavery in the context of sex work.

d) Profiting from the Use of a Person

Profiting from the use of a person may provide evidence of slavery. Having established control tantamount to possession; the act of profiting from the use of that person will be an act of slavery.

Evidence of profiting from the use of a person may include cases where a person is mortgaged, lent for profit, or used as collateral.

Evidence of profiting from the use of a person may also include making money or deriving any other kind of income or benefit from the use of the person. Such as the use of an agricultural worker in a situation of slavery, where the profit from the picking of a crop is taken or received by another whether in the form of wages or of the harvest.

e) Transferring a Person to an Heir or Successor

Transferring a person to an heir or successor may provide evidence of slavery. Having established control over a person tantamount to possession; the act of willing that person to a child or other heir or successor will be an act of slavery.

Evidence of such transferring of a person may include a case of inheritance where a woman, on the death of her husband, is deemed to be inherited by another person. Evidence of such a transferring of a person may also include the conveying of a status or condition of a person to that of a successive generation, such as from mother to daughter.

f) Disposal, Mistreatment or Neglect of a Person

Disposing of a person following his or her exploitation may provide evidence of slavery. Having established control over a person tantamount to possession; the act of disposing of a person will be an act of slavery.

Mistreatment or neglect of a person may provide evidence of slavery. Having established control tantamount to possession, such disregard may lead to the physical or psychological exhaustion of a person, and ultimately to his

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or her destruction; accordingly the act of bringing about such exhaustion will be an act of slavery.

Evidence of such mistreatment or neglect may include sustained physical and psychological abuse, whether calculated or indiscriminate; or the imposition of physical demands that severely curtail the capacity of the human body to sustain itself or function effectively.

GUIDELINE 5 – MAKING A DETERMINATION AS TO WHETHER SLAVERY EXISTS

The exercise of any or all of the powers attaching to the right of ownership just considered shall provide evidence of slavery, insofar as they demonstrate control over a person tantamount to possession.

Accordingly, in determining whether slavery exists in a given case, it is necessary to examine the particular circumstances, asking whether ‘powers attaching to the right of ownership’ are being exercised, so as to demonstrate control of a person tantamount to their possession.

In evaluating the particular circumstances to determine whether slavery exists, reference should be made to the substance and not simply to the form of the relationship in question. The substance of the relationship should be determined by investigating whether in fact there has been an exercise of one or more of the powers attaching to the right of ownership. This will include a determination as to whether control tantamount to possession is present.

GUIDELINE 6 – EXPROPRIATION

Ordinarily exclusion from expropriation or ‘security of holding’ would be deemed a power attaching to the right of owner-

ship. However, as the State generally does not support a property right in persons, a negative obligation against the State generally no longer exists.

However, the State has at minimum the positive obligation to bring about the end of either the status or condition of a person over whom any or all of the powers attaching to the right of ownership are exercised.

The State may have further positive obligations with regard to the prohibition against slavery on the basis of domestic law as well as regional or international instruments.

GUIDELINE 7 – TERMINOLOGY

The term ‘slavery’ has often been utilised to describe circumstances that go beyond the legal definition as established by the 1926 Slavery Convention.

In law, only ‘slavery’ and ‘institutions and practices similar to slavery’, which is often abbreviated to ‘practices similar to slavery’ have standing and are defined in international law via the 1926 Slavery Convention and the 1956 Supplementary Convention.

GUIDELINE 8 – DISTINCTION BETWEEN SLAVERY AND FORCED LABOUR

The 1926 Slavery Convention recognises that forced labour can develop ‘into conditions analogous to slavery’.

Although forced or compulsory labour is defined by the 1930 Forced Labour Convention as ‘all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily’; forced labour will only amount to slavery when, in substance, there is the exercise of the powers attaching to the right of ownership.

176 | Slavery will not be present in cases of forced labour where the control over a person tantamount to possession is not present.

GUIDELINE 9 – DISTINCTION BETWEEN SLAVERY AND ‘INSTITUTIONS AND PRACTICES SIMILAR TO SLAVERY’

Article 1 of the 1956 Supplementary Convention recognises that the ‘institutions and practices similar to slavery’, that is: debt bondage, serfdom, servile marriages, or child exploitation; may be ‘covered by the definition of slavery contained in article 1 of the Slavery Convention of 1926’.

The distinction between these servile statuses as defined by the 1956 Supplementary Convention in the following terms and slavery is that slavery is present where in substance there is the exercise of the powers attaching to the right of ownership. It should be emphasised that slavery will only be present in cases of such ‘institutions and practices similar to slavery’ where control over a person tantamount to possession is present.

The following are the conventional servitudes set out in the 1956 Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery:

(a) Debt bondage, that is to say, the status or condition arising from a pledge by a debtor of his personal services or of those of a person under his control as security for a debt, if the value of those services as reasonably assessed is not applied towards the liquidation of the debt or the length and nature of those services are not respectively limited and defined;

(b) Serfdom, that is to say, the condition or status of a tenant who is by law, custom or agreement bound to live and labour on land belonging to another person and to render some determinate service to such other person, whether for reward or not, and is not free to change his status;

(c) Any institution or practice whereby:

(i) A woman, without the right to refuse, is promised or given in marriage on payment of a consideration in money or in kind to her parents, guardian, family or any other person or group; or

(ii) The husband of a woman, his family, or his clan, has the right to transfer her to another person for value received or otherwise; or

(iii) A woman on the death of her husband is liable to be inherited by another person;

(d) Any institution or practice whereby a child or young person under the age of 18 years is delivered by either or both of his natural parents or by his guardian to another person, whether for reward or not, with a view to the exploitation of the child or young person or of his labour.

GUIDELINE 10 – WHEN SLAVERY AND LESSER SERVITUDES ARE PRESENT

Accepting that both slavery and lesser servitudes such as forced labour or ‘institutions and practices similar to slavery’ may be found in substance in a particular circumstance; the manner to proceed is by making reference to that substance and not simply to the form, and first ask whether there has been an exercise of the powers attaching to the right of owner-

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Adopted on this day, 3 March 2012, by the Members of the Research Network on the Legal Parameters of Slavery.

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CATHARINA DREJER AND KEVIN BALES

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