"The internet didn't go wrong now. It was always here to spy on you," says journalist Yasha Levine

At the turn of the millennium it seemed that the Internet and computers in general will usher in a new, more peaceful era. Over the past decade though the optimistic vision has shattered. Now we are paranoid about who is accessing our Facebook data or who is spying on us through our laptop webcams. "In the late 1960 people saw computers as power, high-tech extensions of power. So they had a more realistic understanding of what computer technology was," says journalist Yasha Levine.

I think many people have a feeling that after freewheeling early years, the internet has gone sour somewhere between the Snowden leaks and Donald Trumps victory in the US elections (brought to you by Russia apparently). Your new book S hits hard against the idea that the internet ever was tool "utopian transformation" how some of technooptimist cheerleaders would have you think. What have you found in the prehistory of the internet that lead you to stark conclusions?

If people know anything about the history of the internet they think that it emerged as an almost inconsequential military project. That was designed to come up with a new networking protocol that would be decentralized and that would survive a nuclear attack. This project was funded by the military but it was carried out by these idealistic engineers and mathematicians and universities all across the country. To the extent that this had a military application, this wasn't something that was foisted upon them. They really didn't care about the military. They were working on their own project, they had their own objectives and that was to create this new radical world where we would all be connected with this new kind of technology. A new interconnected world that could underlie a new kind of democratic systems.

These engineers were very utopian oriented even though they were military contractors. When they built the technology in the 60s and 70s and it became commercially viable, it then was essentially handed to the private sector and the private sector built the internet that we all use today. That's the origin story of the internet. It's a very utopian, very idealistic kind of idea.

When I first started writing this book, I didn't even really think that I was going to look into the history of the internet or challenge the history of the internet, that people have in their minds. I was only going to investigate the for profit surveillance business that underpins Silicon Valley. I wanted to understand exactly how Silicon Valley companies like Google and Facebook and Amazon and eBay and Netflix how they use data and how their systems are used not to just spy on us but to influence us and how this is a part of Silicon Valley's core business practices. This is how Google makes its billions, Facebook makes its billions.

Looking at that led me to a question: when did surveillance appear on the internet? Was the surveillance something that appeared only recently? Did it appear only with the creation of these for profit businesses like Google and Facebook that make money by serving you with targeted advertising? Did it only appear with the NSA when it began to spy on the internet in this global

fashion? Or was surveillance an influence that was something much older and was something that was at the core of the internet, something that was part of its design and purpose?

This made me question lots of these utopian and idealistic ideas that we have about the internet. What it showed me was a whole vast forgotten history about the internet that really turned the idea of the internet as this magic democracy machine on its head and showed it to be really a myth. A powerful myth, but a myth nonetheless.

What I found fascinating in SV was that people actually protested the ARPANET in the late 60s. How did these protest form and how did you come across this?

I came across it just by doing what a journalist or a historian is supposed to do. To go into the archives and not censor yourself because something that you find doesn't comport to your idea of what the internet is supposed to be. So all you had to do was to go into the archives and actually look at the history and it jumped out right at you.

The ARPANET came online in 1969. The work on the network and on the various technologies that underpinned it happened in the mid-60s but the very first node went online in 1969, it connected UCLA to Stanford. That same year students at MIT and Harvard staged a protest against the ARPANET (the very first version of the internet) before even anyone knew what it was. But they knew what it was! Because they've got their hands on a proposal written by a professor at MIT who was instrumental at setting up the ARPANET program and who was also launching a new project that was attached to the ARPANET that would create a kind of database surveillance technology that could ingest data on people and political movements and that would be connected to this network and that could allow military analysts anywhere in the country to use its software to process data and things like that.

They got their hands on the ARPANET proposal and they saw exactly what it was. They saw it as a surveillance network, they saw it as a tool of control that would give the military power over the world in a way that was unprecedented because information was never at the fingertips of generals or spies in this kind of manner. Everything was on paper or microfilm. At the time there wasn't really any way to go into a database and search for someone's name and to figure out who they were and who their friends were, what their political affiliations were. This was information that might have existed in some FBI files but they are usually on paper. Maybe there is some information at a local police department on antiwar or civil rights protesters. But there was never a unified system that would allow someone from thousands of miles away to access data that was not at their local computer or at their local filing cabinet.

So they saw this system that would allow this kind of functionality for what it was. It was a system that would make surveillance and spying on progressive movements – particularly antiwar movement and left wing political groups that were very active on campuses at the time, civil rights activists, black power activists around the country – that this was aimed at them and that this was an attack on movements that were trying to change America for the better.

This critical view of the ARPANET, the first version of the internet, was a big deal at the time in 1969, it made newspapers. There is even some old TV newsreels that covered it a little bit. So it wasn't something that was insignificant. It lasted for days, the students occupied the university

administration building at MIT, it even turned violent. Yet this episode has been completely lost to history. And it's only one of the episodes that I uncover.

But back then people understood that computers are not tools of liberation. Computers in the 1960s were seen by most people in USA as instruments of power and they were wielded by institutions that already had considerable power. Computers at the time were not something that you could keep in your pocket, they were not personal computers. They were expensive, they were large. A minicomputer was the size of a big refrigerator, the bigger computers took up entire rooms, sometimes entire basements and they cost many millions of dollars. They were operated by powerful government agencies, by the military, by intelligence agencies, also by the biggest corporations. So when people looked at computers back then, they saw power, high-tech extensions of power.

So they had a more realistic understanding of what computer technology was, because it was right in their face and wasn't something that was hidden behind a cloud or hidden somewhere far away where you don't see the actual guts of the computers that we use. Back then it was very easy for people to see that if the military is funding this experimental network that could connect a bunch of government databases together that could allow one government agency to access data that another agency had – let's say the FBI could share data with the CIA instantaneously and that a CIA analyst using a terminal in their office could access a database program that could then be used to ingest data on subversives, protesters or guerilla movements in Vietnam and then use that data to extract some useful intelligence or analysis, they saw that as clearly, you know, not utopian. It's pretty obvious. And that's really the origin of the internet. That's why it was created. That's why the Pentagon put tens of millions of dollars into it over a period of over a decade.

This seems to change somewhere between mid-70s, mid-80s. In your book you write about Stewart Brand and his articles making more popular this idea that computers were not an instrument of surveillance or oppression but more of to a tool for individual liberation. You also mention the famous Apple 1984 ad that makes exactly this point, trying to differentiate between the old IBM machines and this new glossy personal thing. Do you thing this glossy idea is coming to an end, or is it too attractive even nowadays?

I think the gloss is coming off for sure. I think people don't look at computers as something that will automatically make the world a better place. I still think that people don't fear Facebook or Google. And probably rightly so, for the most part. Because this is not like a lack of healthcare or a lack of housing. These computer systems can be used to affect your life, but they are not as immediate as other problems that exist in America but also around the world. But the sheet is coming of.

You had just yesterday Zuckerberg being grilled by the Senate for over 4 hours and there was very little positive that was said about his company. So yes, the idea that computers will automatically lead to a better world is dead in the water now and that's an idea that has been really powerful in our culture for many decades. That is a very significant thing. The loss of sense of utopia, the loss of innocence that companies like Facebook and Google have banked on and they have become so wealthy because of that. Because we look at then as innocent, naïve companies that want to do cool stuff, good stuff.

„Don't be evil", right…

Yeah, "Don't be evil". They're not like other giant corporations that want to maximize their profit and their investor value but somehow different. So that sheen, that image that they have depended on to gain our trust and to keep society from taking a critical look at actually how they make their money and what it is that they do, it's coming off, it's over.

Facebook had a slightly less idealistic mantra "Move fast and break things" which somebody brought up at the hearing yesterday and Mark Zuckerberg said: „Well nowadays it is something more like: Move fast in a stable infrastructure" which I think was pretty hilarious…

Yeah, Thats pretty funny. But you know what is interesting, I still think that even though people are looking at computers in a much more critical way and looking at these systems critically, I don't have much optimism in terms of that something positive will change. That there will be a change in the way that these companies operate. Because the data collection is kind of a secondary thing. The primary thing is power, corporate power specifically. Surveillance is kind of this loaded word in terms of privacy. There is a lot of things that are attached to it that I think it is good to unpack it.

Human beings are social animals. We use social media and we can easily be made addicted to it, because we love to be social, we love to post things, we love to have people look at us. We want people to recognize us. We want to engage in social behavior. So when you walk down the street, you have no privacy, people look at you. People engage in surveillance of each other all the time. Just by looking at each other in public. So surveillance is not the actual problem necessarily. It's the power that you have as an entity that allows you to act on that surveillance and it gives you an edge over other people, companies or other entities in society. So I think when we listened to the hearings yesterday, there was no talk about Facebooks power as a corporation…

Well at one moment Lindsey Graham brought it up asking Mark Zuckerberg if he thought Facebook had a monopoly, to which he responded that he doesn't feel like it…

(Laughing) No, it's true. Why would he feel like it. It's funny how unprepared he seemed for even basic questions. You have to have a better answer for the monopoly question. Or like the one he had about the hotel room. It was a strange answer because he didn't know how to answer that at all. I can't remember the name of the senator who asked, but he said: "Would you be comfortable sharing which hotel you stayed in last night with the public?" And Zuckerberg just froze and had no idea what to say. But his answer should have been pretty obvious: No he doesn't feel comfortable sharing that with the public but when people share things with Facebook that's private information that Facebook safeguards and we trust all sorts of companies to know things about us. Your credit card company knows what hotel you stayed in and things like that.

So he could have broadened the topic and taken it away from Facebook and talk about other companies that do the same thing and that we implicitly trust because we are their customers and it's in their interest to protect us etc. But he had no idea what to say, which is kind of incredible, that he wasn't prepped properly. He must have like a hundred people who were coaching him for his appearance. So I don't know…

They might have some blind spots it seems… I understand your skepticism about things changing for the better. But we do seem to be in a point in time where there is a lot of attention focused on these big tech companies. Did this catch you by surprise a bit? I'm asking in part because 5 years

ago in light of the Snowden leaks, the private sector meaning the technological giants like Facebook and Google largely avoided scrutiny. This seems to be changing a bit right now. Why do think people are suddenly more interested or ready even for this is? Is it just Trump and Russia stuff that focused more people on this?

Yes! I think that is exactly right. It's Trump for the most part and then Russia is one of the reasons that it's being used in America to explain how Trump was elected. And the Cambridge Analytica scandal, this is what got Facebook into trouble… Facebook didn't do anything special. It was doing exactly what it was doing last year and the year before and the year before… Facebook didn't actually do anything. What happened was Cambridge Analytica and their ties to the Trump campaign and ties to some billionaires who backed his campaign. The hedge fund billionaire Robert Mercer is the guy who put money into Cambridge Analytica.

So were approaching Facebook interest in FB, Google, Twitter and their data practices not from the point of how does this in general harm society or what kind of power does the data that they collect and the attention that they command from billions of people it give them over society and over the world. We're approaching it from a very narrow perspective. How was it used by the Trump administration to get elected and to cheat the American voters and to bamboozle them.

I think it is important that Facebooks data and business practices are entering the political arena. But I think the reason why people suddenly care is also important because it will drive whatever the solution is going to come out of this process. Because there will be some kind of regulation. There will be some kind of limits put upon Facebook and these companies. I'm sure there will be. The reasons why they are being investigated will impact whatever regulations are proposed.

So I believe that America, especial the political establishment is in a deep crisis. Both parties lost to one of the most unpopular candidates in the history of American politics. Donald Trump took all his opponents in the Republican primaries. People whose carriers have been formed over decades and hundreds of millions have been pumped into people like Rand Paul and Ted Cruz. People who were supposed to take the mantle. He took them out like a bowling ball. He came out of nowhere.

And then of course he took out Hillary Clinton who was supposed to be the most competent candidate in recent history. And he took her out and the Democrats didn't even foresee it. With all of their hi-tech election campaign wizardry that Hillary Clintons campaign employed. They we're blind sighted by his victory. The political establishment of both the Republican and Democratic party are freaked out by this phenomenon and so what really drove Trumps victory was not some technical thing it wasn't meddling by the Russians, it wasn't Facebook and Cambridge Analytica taking some Facebook data and babmoozling and zombifying American voters. It was the politics of the country.

The failed policies that have been going on in America for a long time. America now has the highest child poverty rate in the last 100 years. There is more unemployment now. We have gone back almost completely to the Gilded Age. There is wealth inequality that America hasn't seen in over a century. Americans are dying faster, they are living less. There is an opioid crisis going through white working-class America that basically has no jobs anymore and is dying. There is a lot of problems in American society and Trump is a symptom of that. But yet no one really wants to take on the political problems. Or look at the political system and the problems with it and so people are looking for an outside reason to blame Trumps victory on, to explain it and so Cambridge Analytica and Facebook

are now the thing that are the latest installation of the thing that explains Donald Trump and it is combined with the Russians of course and all these other things. That's why it is being looked at.

I was surprised, I didn't expect it at all. But of course you don't really want to bet on things in politics, because things can change very rapidly. But I am really glad that this is happening and I hope that something positive will come out of this. But here is the problem: to the extent that there is a politics of technology in America today it exists only as a reactionary kind of phenomenon. Meaning that there is some kind of problem that suddenly comes to people's attention about this technology.

Like for instance with Facebook and elections. Suddenly we realize: wait a second, Facebook can be used to influence elections and to elect people like Donald Trump and we must do something to fix that. That is the reaction that is happening now. So it's purely reactionary but it's not looking at the underlying role that technology plays in society. It's not asking bigger questions. As a democratic society is it right that we are allowing this very important telecommunications system like the internet on which relies so much of our modern lives. Is it OK that we are allowing these twin forces that are very unaccountable and undemocratic to drive the development of this technology?

It is driven by two forces. One of them is the national security establishment, the needs of the defense establishment and then Wall Street. These are the forces that are in control and dictate the development and path of the development of technology today. This why Facebook looks like Facebook and does business like Facebook. This is why Google is Google. This it makes money the way that it does and why its business model is such that it is.

No one is really stepping back and thinking about: OK well we see that this technology has a lot of power and has a lot of negative sides. It has some positive sides as well. But in a democracy how do we actually take control of the development of this technology rather than to leave it to these market forces that are unaccountable. No one is having that conversation. The most radical stuff that people are talking about is basically breaking up the monopoly. Breaking up Facebook, breaking up Google.

Which is OK, I am not against it. I think maybe it's the right thing to do. But it doesn't address the deeper questions about the role these technologies play in society. How they shape society and whether or not in a democratic system whether or not the actual democracy should have a say in the development of these technologies. You know what i mean? If that makes sense…

It seems to me and you mention it yourself that there are lots of parallels with the Gilded Age and the Robber Barons and stuff like that. When you look at the history of the USA at the end of the 19th century you had the Populist movement. Can you imagine something like that happening nowadays to challenge the monopolies of this era?

No I don't. You're right: the Populist movement is actually a great model to contrast today's politics to because the populist movement actually tried to redefine, tried to understand the financial system and the railroad system. These monopolies made the small farmers in the Midwest and then Texas to be basically like serfs.

They were almost slaves to the system. They were not enslaved by law but they were enslaved by the fact that they could not escape the terms and conditions that were placed on them by these giant monopolies and so they went back to the drawing board. They wanted to envision a new way of

building an American system re-envisioning a different of running the monetary system, a new way of running a new kind of currency for farmers like themselves that could alleviate some of the problems that the gold standard imposed on them.

They tried to create their own cooperatives that could eventually challenge the power of the railroad monopolies and the bank monopolies. But they came together as communities and really tried to create a different world and to change the world around them and to take control of the political process in a democratic fashion in a way that would work for them and work for other Americans like themselves.

This is not really happening now. Right now most of this stuff is driven by think tanks. The reform movement or the movement to break up the tech monopolies is driven by think tanks in Washington DC! Their part of the same culture that is the problem, that is a symptom of the problem in American politics. For everything is top-down, everything is elite-driven, nothing is actually democratic. We have no democratic politics in America and so it would be very hard for us to even think about what a truly democratic Facebook or what a truly democratic internet looks like.

In your book you talk about the use of punch cards and IBM technology in concentration camps in Germany, which is a bit of a lost history and even if it gets mentioned on occasions it is presented as an aberration of a technology that is mostly peaceful. You chip away at this narrative in Surveillance Valley. Could you explain how your view differs and why you visited Mauthausen not far from the Czech border?

What is interesting about the history of computers is that is a history of surveillance and population management. Computers are machines that allow you to crunch large sets of numbers, large datasets. That's what they're for – to process data whatever the form is of that data. Usually that data, because we are human beings and we are interacting with other human beings whether or not we're running a modern government or we're running a business, running a railroad or running a army or invading let's say Normandy, you're at its core usually dealing with people products that people produce or something that is produces by other human beings. From the beginning computers were developed to analyze people.

That goes back to the late 19th century when the first punch card tabulator was invented by this guy named Herman Hollerith, who developed it under contract from the US government to help it count its census, to count its population and sort it. So the very first computer and punch card were invented to count people. To surveil the population of America. That is at its base one of the primary reasons for why computer technology was invented and then of course innovated upon etc.

But at the core it is about counting people which in the modern world is really about managing society, helping governments and large institutions manage society and people that live in there. That capacity of the computer can be used for all sorts of reasons. It could be used for horrible things. It could be used for good things. For instance when the New Deal was passed in USA, the first old age pension system was created as part of the social welfare program. To manage this system the US government contracted with IBM. To this day American welfare system runs on IBM technology. That's a good thing, right, you want to have old people live comfortably in their old age and not in poverty. That's a good use of IBM surveillance technology.

Almost at the exact same time that in USA IBM was being used to manage pensions and to deliver paychecks to old people every month it was being used in Nazi Germany to create a racial profiling system to process these racial censuses that were being carried out by the Nazi government after Hitler came to power. To be able to isolate Jewish German citizens. Then as that expanded these IBM computers were then used to run the slave labor system that worked people to death in the interest of Hitler's war machine. You have this two kinds of things where computers truly are neutral. The way that they are used or the way that are abused is a reflection of the society in which they are developed and deployed.

I went to the Mauthausen concentration camp in Austria to get a sense of that to see that computers aren't something that is abstract. Something that is kind of out there in the cloud. Something that floats above politics, above culture. That it is something very much rooted in our societies and our politics and the aims, the objectives, the values that are embodied in our societies. In Mauthausen these IBM computers, these early punch card tabulators were used for genocide. And it is important to remember. Because even back then 80 years ago computers had awesome power to destroy lives.

Now every missile, every warhead, every drone has a computer embedded in it. People understand that computers can be used as weapons and can be used to murder people. But there is somehow a disconnect between the computer that is in front of you, your iPhone or your Macbook, and a Tomahawk missile. But they're basically the same. The processor is the same. The satellite technology that is being used to connect the missile to the control center is the same that our cellphones use. It is important to look at the darker side of the history of computers in order to appreciate the way that computers are being developed and where we are headed into the future…

.. and on that happy note (to borrow a phrase from Radio War Nerd) I thank you for the interview and your time!