

Article

Intelligence and Big Tech

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Big Tech and Big Data are the two most talked-about trends of our time. From their ever-increasing dominance to staggering market cap numbers, anti-trust and other regulatory issues to ideological conflict with elected governments, make headlines more often than any other business on earth. While discussing Big Tech and Big Data, people often tend to forget that there is an interesting history and background associated with their origin, perhaps because that is one of the least discussed matters of our time. It is therefore important to recall that computer, internet and cyber-- the foundational elements of big data and big tech, have been invented and are an outcome of military and intelligence Research and Development (R&D) projects. That origin shapes a characteristic feature of big-tech providers from the US-- surveillance and intelligence gathering are built into its services. For the purposes of this paper, large US tech giants on which India and much of the world depend for multiple vital services, are examined. This feature, of course, is even more true in the case of Chinese big tech and apps.

Generally, when we say Big Tech, we refer to a few US Tech companies like Google, Facebook, Amazon, Apple, and Microsoft, and from the last one or two years, Twitter is also part of this club. But there are dozens of other tech companies, quite big in operation and scale, that exist in Silicon Valley, like Instagram, LinkedIn, HP, Adobe, Cisco, Oracle, eBay, Uber, Tinder, Airbnb, Spotify, Foursquare, AngryBirds, Lyft, etc. If we zoom in and observe their business models, we find that these have embedded advanced surveillance capabilities from the beginning.

The person who used the term cyber for the first time, an American philosopher and mathematician Norbert Wiener, in his book *Cybernetics- or Control and*

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Communication in the Animal and Machine (1948), argued that “a society can only be understood through the study of the messages and the communication facilities which belong to it; and that in the future development of these messages and communication facilities, messages between man and machines, between machines and man, and between machine and machine, are destined to play an ever-increasing part.”¹ Wiener’s next book, which came two years later in 1950, was *The Human Use of Human Beings*, and the theories given in the book inspired many automation efforts that we see today, specifically by the tech giants.

Big Tech companies are often propagated as the ultimate dream of an entrepreneur. For many, these are the ‘garage startups,’ initiated by some college dropouts and computer scientists, who accidentally, one fine day, caught the attention of some visionary venture capitalist, who decided to fund and to bet on those childish-looking ideas and later those ideas, as we know, conquered the whole world! Those stories of hard work, determination, and dedication are indeed inspiring. But at the same time, there is a long history of the American scientist fraternity, their businesses, and intelligence communities working together as well, from the creation of atomic bombs to satellites and the famous moon landing efforts. The internet itself is an enhanced version of ARPANET (Advanced Research Project Agency Network) of the United States’ Department of Defense.

Producing commercial entities as the joint initiatives of Defense and Intelligence agencies, which can bring massive mutually beneficial information, is a part of the long strategic tradition of the US. The Silicon Valley and the consortium of tech startups that it produced, which we today refer to as Big Tech, are also not the exception.

Foundation of Silicon Valley

The stories behind the foundation of Silicon Valley, which has been branded as the ultimate destination of innovation and entrepreneurship and projected as an aspiration for the young Indian minds too, are equally unique. It’s well-known that the defense contracts of the 1950s and ‘60s were the lifeblood of the valley. Frederick Emmons Terman, the leader of Allied radio-jamming efforts in World War II, is called the father of Silicon Valley. It is said that after the war, Terman returned to Stanford University, and was appointed the dean of the School of Engineering. In 1951, he spearheaded the creation of Stanford Industrial Park, which is now called the Stanford

Research Park and the 'Engine' of Silicon Valley, as it is home to over 150 high tech startups, including HP, VMware, Tesla, Steve Jobs' NeXT computer, and Facebook, etc. It was Terman's vision to lease the Stanford University's land to these high-tech firms.

The entrepreneurial journey of Silicon Valley started with military contracts for microwave and vacuum-tube technologies that were used in aerospace projects in the 1960s. The initial enterprises received lucrative contracts in the government's space and defense programmes, including the popular Minuteman missile effort. For these high-tech startups of the valley, the Central Intelligence Agency (CIA) and the US Department of Defense were their first clients. Later, the US intelligence community-focused venture capital fund In-Q-Tel was launched to finance companies whose products were of interest to the CIA and other agencies. In-Q-Tel's portfolio now includes security companies such as FireEye and data analysis firms like Palantir Technologies.

The entrepreneurial journey of Silicon Valley started with military contracts.

The ideas of 'venture capital' and venture capitalist were coined to encourage the private sector investments in businesses by returning soldiers of World War II. The father of Venture Capital, Georges Doriot, who founded the first venture capital firm American Research and Development Foundation (ARDC), had a prolific military career too. He worked as the director of the US Army's Military Planning Division, was appointed the Quartermaster General during World War II, and later was promoted as brigadier general.

One of the most promising ventures of Silicon Valley-- Google, is considered as the biggest improvisation of mass surveillance in history. Google has cooperated with the CIA many times in the past but in 2010, when Google and CIA jointly invested in a private intelligence-based cybersecurity company- Recorded Future, it caught the attention. It was a tool of real-time web monitoring, to find the relationships between people, organizations, actions, and incidents. With time, as Google started dominating the consumer market, its other side of working as the contractor for its home country's security and intelligence agencies went into the shadows!

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Geospatial Data

Over the years, Google openly coordinated with US intelligence agencies to transform many small startups into useful strategic assets; and one such startup was Google Earth. The core technology behind Google Earth is originally from Keyhole inc., which was founded in 1999. At that time, Keyhole's flagship product - Earth Viewer used to be sold on compact disk drives (CDs) to real estate, urban planning, defense, and intelligence groups. In 2003, CIA's venture capital arm In-Q-Tel invested in the Keyhole, and also joined hands with the National Geospatial-Intelligence Agency. In 2004, Keyhole was acquired by Google. In the same year it acquired Google Maps from the two Danish brothers, Lars and Jens, and also ZipDash, a real-time traffic analysis company. Today, Google Map is the default app for Android OS (a product of Google) that has a 95.23 percent market share in India. With the recent self-reliance moves of the Indian government in the Geospatial domain, and with ISRO and homegrown startups like MapmyIndia coming together, things could, however, turn around in future.

There are plenty of such less known insights about big tech and, these are not conspiracy theories, the information is official and mentioned in the documents, press releases, and accounts that are available in the public domain. But they never come into notice or become a part of popular discourse, and that's a bit curious. One can say that the idea of Big Tech, Big Data, High Tech Startups, Venture Capital, and everything that is associated with Silicon Valley's culture and glamour have their roots in the military and intelligence ecosystem. The products of Valley have ventured into all those areas, which have the potential to affect strategic calculations--from Economy to Media to Geospatial data to public opinion/perception management-- and all this cannot be called a mere coincidence.

So, while referring to tech dominance, we are referring to a different kind of dominance - which is covered under the guise of democracy, liberty, equality, global citizen, one world, entrepreneurship, and innovation. Too much discussion on Big tech and big data often ignores a basic reality, that there are human minds, a psychology, some philosophy, and a strategic mindset, that work behind these products.

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Methodology of Intelligence

In the year 1989, Prof. Isaac Ben-Israel, who is currently the chairman of the Israeli space agency, published his research paper titled “The Philosophy and Methodology of Intelligence- The Logic of Estimate Process,”.² The paper is one of its kind in the intelligence research domain, primarily for two reasons: one, intelligence is a closed domain and there is a lack of meaningful discussions on its working philosophy/ methods; two, the paper got published at a time when modern intelligence techniques were in their maturing stage, and when the internet was transforming into the worldwide web (in 1991).

There is a natural commonality between the intelligence process and big data, both depend on the 3 As--availability, accessibility, and accuracy-- of information. Since the internet is primarily a tool of military and intelligence work, an understanding of the philosophy and methodology of intelligence research can solve some of the questions related to the objectives and approach of big data and big tech. There is a belief that intelligence problems are very complex. They certainly are, but the problems related to the physical world are equally complex as well, as the paper perfectly puts “is it possible to solve or predict the weather (‘clouds’)”?³ If concrete physical problems can be solved with information and approximation then intelligence problems can be solved as well.

The paper highlights some of the challenges of intelligence research that are related to estimation, approximation, and inexactitude (lack of precision). It critically evaluates the traditional processes of intelligence estimation that were prevalent at that time, such as anti-scientific historicism and pro-scientific historicism, and proposes an approach (amended critical method) based on scientific methods and refutation. The conventional approach to intelligence research (before internet technologies) was based on historicist methods that emphasize historical processes or trends, and the idea of ‘holism’ to infer large-scale predictions. Those methods were based on the idea of manipulating the dynamics of a society with the social and historical forces, as well as activism, and influencing the trends/processes to push them in a particular direction. The paper sheds light on the different challenges into those approaches such as obstacles in obtaining relevant information and deriving insights from that, difficulties in experimenting (on a large scale) with the hypothesis/approximations and in testing/ validating them, relying too much on ‘what’ part rather than on ‘how’ (the causal explanations), and the lack of a logical process and dependency on the known data, etc.

Prof. Isaac has advocated that the scientific approach is critical for analysis or accurate prediction about a group, society, or nation, and the major trends. The paper was published in 1989 and two years later (in 1991), the internet emerged in its new avatar and became the World Wide Web, and the situation has been transformed since then.

After three decades, it is quite visible that these computer technology products and their improvisations are using a similar kind of approach (that is mentioned in the paper) in measuring, monitoring, predicting and deciding the trends. The issue of inexactitude in intelligence predictions has been resolved to a great extent. To put it more succinctly, if Google or Microsoft windows were the platforms for facilitating the initial stage of intelligence research- 'gathering of information' --then Facebook, Twitter, YouTube, Instagram, and WhatsApp, etc., can be seen as the mediums of 'experiments' (through greater public engagement and dependencies).

Human Error- 'Free will' is the Hurdle

Isaac's paper also points toward an important human dimension-- the element of 'Free Will' in the mind. It says that in future, with the invention of technologies and enhancement in intelligence research, the exactitude of predictions will certainly grow but it will never reach total precision. The reason for that is that: "Man has an element of Free will, and can always act irrationally, even against his own interests".⁴ As long as men with 'free will' are there, there is no way to verify the conjectures about the intentions, and free will can spring a surprise anytime. One can say that the 'Human Error' that these tech products and improvisations are trying to minimize is Free will, which was a key hurdle in influencing and controlling the System in the past.

Improvisations

Nothing has affected the 'Free will' of humanity more strongly than the Covid-19 pandemic. While waiting for the lockdowns and restrictions to get over, everyone was literally forced to spend more and more time on technology platforms. Many businesses around the world -- and even the very idea of their existence-- vanished during this phase and everyone seems to have lost something or the other. But we cannot let it go unnoticed that the Big Tech club has emerged as the biggest beneficiary of the Covid disruption. The recent stats on their quarterly revenue are revealing. Google, Microsoft,

and Apple's combined revenue crossed over \$50 billion in the April-June quarter. Facebook saw a 101% increase (as compared to the same quarter in 2020) and for Amazon it was the third consecutive \$100 billion quarter; its sales grew 27% to \$113 billion in the last three months.

On the one hand, in between the news on new variants and the anticipated 'third wave', many countries are still struggling to recover, and to restart their economic cycle; on the other, the Big Tech owners have started pursuing new aspirations in new domains—this time not in cyber but in the physical world, i.e., farmland, sea, and space.

Case of India

In the *Arthashastra*, Acharya Chanakya has said: *"ACQUISITION and SECURITY, are dependent upon peace and industry. Efforts to achieve the results of works undertaken- is industry. Absence of disturbance to the enjoyment of the results achieved from works is peace."*

While the Indian government is drafting the guidelines for social media and e-Commerce, these tech giants have already started entering into new domains and sectors. Companies like Google, Facebook, and Amazon have started capturing the Financial Technology (fin-tech) and payment markets. There are already Google Pay, Amazon Pay, and Facebook pay, and WhatsApp's recent P2P money transfer feature. Now they have started exploring microcredit, digital insurance, MSMEs, retailers, and social commerce. Their growing financial portfolio is a serious matter, from the national security point of view. A few days back, the Reserve Bank of India (RBI) warned against such ventures which can cause financial destabilization in the long run.

Companies like Google, Facebook, and Amazon have started capturing the Financial Technology (fin-tech) and payment markets.

After one and a half-decade of behind-the-scenes predatory practices, the tech giants are now in an open fight with many domestic companies. There is frequent news about small traders, retailers, startups, and telecom operators raising concerns over the FDI and trade policy violations, and on the unethical/discriminatory business approaches of these US content providers. The Confederation of all India Traders (CAIT), a body of over 80 million Indian traders, was forced to move to the Supreme Court against the hegemony of Amazon and Flipcart type e-Commerce platforms, and their

alliance with selected suppliers and local private banks.

In 2019, during the Reagan National Defense Forum (RNDF), Amazon's Jeff Bezos shared his deep commitment towards US intelligence and defense department's interests and criticized fellow big tech players for not doing enough on their part, because of the pressure of some of their employees and socio-public groups. He said: "If big tech is going to turn their backs on the Department of Defense, this country's in trouble. That just can't happen".⁵

A recent development is that Amazon is planning to diversify its entertainment portfolio in India, as well, and is looking at ways to acquire multiple film and media distribution players.

Economic security is one of the vital dimensions of National Security. The question before countries like India that are embracing big tech products to the fullest is- how they will deal with a situation where things are beyond simple profit/loss calculations.

Perception Management

Social media platforms are the biggest medium of trend creation, and trends can build/affect/and damage perceptions. This is quite evident when the song of a school kid from some remote village, goes viral on social media and the Chief Minister of the State invites the kid to his house and felicitates him, literally, for being viral. Even though it seems a normal and healthy trend, unknowingly such activities legitimise social media to shape and control the narrative. There are many such incidents--such as when some street singer, some Baba ka Dhaba, some housewives, some old person, suddenly get money and fame overnight, and all these heart touching stories, for a moment make people think that's the real power of social media, the real empowerment of the common people!

This is something which is visible; there is a need to look at what's not visible, which is hidden. In the language of intelligence, let's test those hypotheses for which there is not enough information that can refute it. In the last 3-4 years, a tsunami of social media influencers belonging to all age groups, all castes, and communities, and all classes of the society has raged through these platforms. There are thousands of influencers who are running their shops on these tech platforms- YouTube, Twitter, Instagram, Facebook, WhatsApp, etc. They have enormous viewership, and if these are

the real numbers one can say they have good public support too. When they produce something that goes viral, their content spreads like coronavirus, goes global, and they receive endorsement/promotion from the local and global perception management ecosystems in politics, media, and businesses.

These tech platforms provide the opportunity to not just earn money but to earn name, fame, and brand. On one hand, these trends raise aspirations in the rest of the young minds. We see Indian engineering students turning more and more YouTubers, Rappers, and Standup comedians, at a time when the country needs their engineering talent most. There is nothing wrong with pursuing creative talent but it's about the mindset of switching on or off a trend. On the other hand, what kind of content these influencers produce needs to be examined as well. Most of these influencers produce content that promotes anti-national sentiments, and social divide in the name of caste/community/regionalism/language identities, etc.; they also promote violence, vulgarity, abuse, and all sorts of objectionable/unethical things. In a way, they are trying to revive those challenges of the past from which India has been working hard to move on. What if these foreign tech platforms ask or encourage their influencers to use their power to create chaos in the society if that law does not suit their particular interest group/lobby? This has, in fact, already occurred in the political mobilization against the recent laws passed by the Indian government and approved by the Parliament such as abrogation of Article 370, the Citizenship Amendment Act and the Agricultural reforms. These laws were legitimately passed in the larger national interest or to protect the interest of the affected people or the economy. Social media played an active role in fomenting the anti-government rioting, violence, and mass mobilization in all these cases. Creating misinformation and disinformation has become the norm for social media. Can one expect these social influencers to act independently and freely, and with some sensitivity toward the national security interests of India? Unfortunately, for a majority of them, we cannot! And what if they continue to do so with a foreign agenda?

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How the security agencies would be able to deal with the Tsunami of social influencers, which is paid, nurtured and promoted by foreign platforms? That's become

a serious National Security concern.

Conclusion

So, what's the solution? Solutions will emerge only when we begin to think about changing our role- from Guest to Host. At the moment we are more on the receiving and defending side and, as it is said in the military, ensuring that you are the host, not the guest, is the main principle of war. At this moment, India is in a guest position and Tech giants are pretending to act like a host. The situation needs to be turned around. A majority of our young people see technology as an instrument of problem-solving, startups as the 'garage startups,' and Silicon Valley as the ultimate destination of entrepreneurial dreams. The information they consume from all possible mediums smartly filters the other dimensions, and this 'filtered information' is the key hurdle. While the filtered information obstructs their creative instincts, the absence of consciousness about national interests discourages them to pursue organic ideas.

To tackle the situation, two small improvisations can be introduced in the current system: *promoting awareness and building self-consciousness*.

In the first semester of all engineering degrees, all Colleges can incorporate an additional module, i.e., Origin of the idea of Big Tech. In that module, different dimensions of the technology industry, the history behind the foundation of Silicon Valley and its high-tech startups (some of which we refer to as Big Tech today), the original ideas behind AI, Big Data, and the Cyberworld as a whole, and post-World War II developments (activities of individuals/groups/agencies) that shaped them, can be introduced in a non-offensive creative manner.

But, who can guide a young mind about our National Security interests--politicians, celebrities, academics, or those who have worked in the defense and security-related agencies? A significant proportion of our security fraternity has limited itself to think tanks and media discussions. They need a channel to start their engagements with the young minds, and for that, a new track can be introduced across all state-funded universities (Center/State) and institutions. In the way an additional paper of 'Moral Science' was introduced in the primary and secondary schools, a separate yet mandatory paper on **National Security**, needs to be included in Universities/Colleges, under which lectures would be delivered by the security fraternity (ex-serviceman, retired officers

from security and intelligence wings).

When ex-servicemen, former security and intelligence officers start engaging with the university and college students as mentors, this will create the same moral impact that mandatory military service does in some nations. Such a move will sow the seeds of a strong foundation capable of producing several new improvisations for the future!

Such small improvisations can be a good starting point for building a new environment. An aware and self-conscious mind, with some understanding of the home country's national security scenario, interests, and challenges, can play a positive and active role in shaping the tech industry's future and presenting a Bhartiya version of technology!

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