The 2018 Peter Drucker Challenge

On

How to Stay Human in a Robot Society

Student Category

Fallout of a digital detonation: How to endure and stay relevant

(2962 words)

Introduction

"What is a man but the sum of his memories? We are the stories we live! The tales we tell ourselves!"

This was a quote from the sci-fi videogame *Assassin's Creed Revelations*. But despite its fictional origins it made me wonder—what exactly are these so-called memories? Do they really represent who we are as a person? If a man wakes up one day with absolutely no memories, how would he act? What would his sense of 'identity' be?

As I searched for answers I came across pieces of information, fragments left behind by those who had searched for the same, and concurred that every part of us, every part of who we are, comes from where we have been and what experiences we have had. From the treasured moments of staring into the eyes of our beloved, to heartbreaks, to being overwhelmed by sins and vices, or overcoming an obstacle, these moments mould us. Without memories we are nothing but empty shells with just our ghosts trapped inside for we are not born with a set of personalities, we learn through our experiences and thereby learn how to behave. It is its interpretation by our minds that makes us… relevant when everything around is so artificial.

And therefore I start with one of my childhood memories when I first came across a vision of the future—my first image of an AI robot.

<p style="text-align:center">***</p>

It was a dry afternoon, hot and mundane like all summer holidays are. I was sitting on our sofa, savouring the taste of the mango juice prepared by my mother and gleefully watching *The Jetsons* on Cartoon Network, an American animated sitcom from the 1960s and 1980s. It was set in the year 2062 and followed the story of the Jetson family. The cartoon show imagined the future as an era of flying cars and a comfortable home life where every chore can be passed on to robotic assistants, and as expected, the family had one named ROSIE.
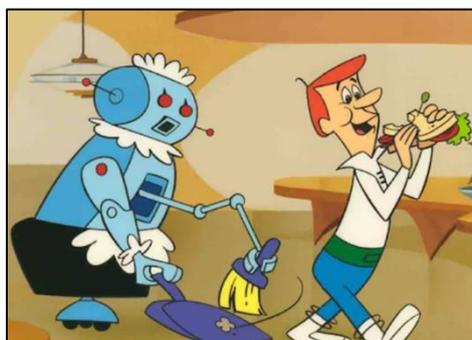

Fig 1: Rosie the Robot
(Source: Google)

Rosie was the perfect maid. With her reliable attitude and superb cleaning abilities she could put any human maid to shame. But what intrigued me more was her witty demeanour. She was a robot, yes, yet she didn't feel… artificial enough to me. Her acts, her way of talking, her way of learning, was all natural like she was the ghost of an obedient housemaid wearing a tin shell. She could soothe you when you are tensed, motivate you to take a certain step, advice you while taking crucial decisions, and all this she could perform as smoothly as any human.

This realization left me flabbergasted. My brain started firing in all directions, churning out ideas and conjuring up vivid images. Was this possible? An artificial mind that was more human-like? What kind of robot is she? The mere thought of a mechanical being doing all the chores of the house with absolute proficiency and utmost effectiveness made me ponder over the probability that something like this would be possible in near future when we could just sit back and relax while our robotic maids sweep away the dirt. I started dreaming of a similar domestic assistant that would do all my homework, solve all my math problems, help me in science projects while I keep watching cartoons day in and day out.

That was when I was oblivious to the true implications of AI.

The Janus analogy—a dichotomy of AI

"I believe by the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines without expecting to be contradicted."[1]

— Alan Turing, the pioneer of AI

Artificial Intelligence started as a potboiler of mathematical and scientific notions in antiquity, gradually developing into a sci-fi conjecture and ultimately into a conceivable reality. Alan Turing was the pioneer who realized it in the 1950s and bought the concept into a practical platform which we see now. But he was sure that we needed better understanding of human intelligence before we could construct 'machines with intellect'. This has been agreed by Jeff Hawkins, the founder of Palm Computing, and by Yan Lecun[1], the director of AI research at Facebook, who explained that instructing machines to learn for themselves without having to be explicitly pointed out whether the things they did was right or wrong was the key to construct a 'pure' AI. He claimed that it would revolutionize search engine parameters and in due course

of time the incessant flow of redundant information itself. But just like the two-faced Roman God, Janus, the developments had come with its own propositions and warnings.

"We've seen specialized AI in every aspect of our lives, from medicine and transportation to how electricity is distributed, and it promises to create a vastly more productive and efficient economy. But it also has some downsides that we're gonna have to figure in terms of not eliminating jobs. It could increase equality. It could supress wages."[1]

— Barack Obama, former US President.

Although we have yet to reach the stage when AI systems start writing their own programs independent of human intervention, their effects have begun to ripple across the employment scenario in the technological domain. An anxiety has risen among both the white-collar and blue-collar workforces—a fear born of irrationality that they might be replaced by more advanced machines which would perform all their tasks with just a snap of their fingers. Although the fact that the future will be ruled by machines is mostly hysteria but one cannot deny that they are better and faster than us in every aspect. Besides, in this busy routine, why would any shareholder pay regards to who exactly is doing the work if he or she ultimately gets the job done? Peter Drucker himself had argued that the only certainty about the future was that it will be different, and this is the exact scenario he had predicted in his book *The Post-Capitalist Society* (1993) that the world will become more volatile and ambiguous than it was before, giving rise to forces and changes beyond the control of an average human being. The growing fear of automation has made workers believe that they are just cogs in the industry—expendable and easily disposable—leading to a wave of distrust in the management. And the management is constantly turning a blind eye on this, looking forward to maximize profits, unwittingly creating an industrial black hole that though they are pulling in profits they are bound to collapse into their very centre. Here I insert excerpts from *The Post-Capitalist Society—far too few people understand that it was the application of knowledge to work that created developed economies by setting off the productivity explosion of the last hundred years. Technologists are giving credit to machines and economists to capital investments but in their quest of catering to the shareholders, they are alienating the very people on whom the motivation and dedication of business depends.*

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[1] Source: https://www.forbes.com/sites/bernardmarr/2017/09/22/12-ai-quotes-everyone-should-read/#7f057f8a58a9

As an engineering student I have witnessed instances where software engineers employed in IT industries have to unlearn and relearn relentlessly—acquire new skills and knowledge just to keep their necks above the sea of change brought upon by AI. The cutthroat competition from man and machines though has pooled in a multifaceted and smart skill-base but they live with the same expedient paranoia that they are all but relevant and the only way to remain relevant is to continuously 'upgrade' themselves.

Ironic, isn't it? Like we are the machine!

I might have discarded this fact, ignoring the bombastic headlines in the business section of the daily newspaper, if it was not for the news I got from my aunt that her daughter, my cousin sister, had been 'released' from Infosys—an extremely rare occurrence in one of India's top IT companies. On further investigation, I found that Infosys has been laying off around 9000 employees in the past two years because of automation of lower-end jobs as stated by the company's HR head, Krishnamurthy Shankar. "We have been releasing about 2000 people every quarter and also training them in special courses that will help them in their new assignments," he had told[2]. This shows that most big IT services are heavily investing in automation of processes like BPO, infrastructure management and application management. Since the costs of machine learning and AI which previously required expensive computational power have now come down, most of the people which have been released have been reassigned to special courses that will help them in new projects. And it isn't just Infosys. Wipro, another IT company, is also traversing the same path reflecting the need to adapt to changes and adjust to the fallout of the 'digital detonation'.

"*Knowledge has to be improved, challenged, and increased constantly, else it vanishes*[3]
— *Peter F. Drucker*

The cold-stab of fear is there in everyone's heart who is employed in such sectors, and this coerces them to pit in an unending rat-race of arming up for better job acquisitions as the jobs which are facing an immediate risk are the ones requiring more hands. The change is imminent and inevitable and the only way out is upgradation.

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[2] Source: https://timesofindia.indiatimes.com/business/india-business/infosys-releases-9000-employees-due-to-automation/articleshow/56678827.cms

[3] Source: http://sourcesofinsight.com/lessons-learned-from-peter-drucker/

What would robots do without humans?

The basic economic resource, the means of production, is no longer capital, natural resources or labour but knowledge—this was the introductory line of Peter Drucker's *The Post Capitalist Society*. He had further written that in the future the leading social group will be knowledge workers who know how to allocate knowledge to productive use. It is them who can define performance, determine appropriate workflow and set up the right team because they will be the one who can morally and ethically determine what activities are needed to be eliminated in order to enhance productivity, not AI. New pathways will open up for entrepreneurship, the likes of which we have not seen before, because the encroachment of automation would free up people to take up managerial tasks. There will be better focus on the non-routine aspects of the organization which will not be possible with AI because of its unplanned and variable nature. By accruing our analytical and rational skills, we can easily stem the tide of this 'digital detonation'.

And how are all these possible?

Because AI, however 'artificial' it may sound, is not completely artificial. It is limited by how much power it is bestowed.

"It's not how intelligent the machines are; it's how much control we give them"[4]

— Gary Marcus, NYU Scientist

An AI is no smarter than a fifth grader and just like any fifth grader it needs to be guided by tutors at every critical juncture. And who are these tutors? It is us! The humans! the ones with empathy, feelings, reasoning and creativity. Although there have been developments in Artificial General Intelligence i.e. those generation of AIs which can perform cognitive and intellectual tasks, but they are still no more intelligent than an average teenager. Even Facebook[5], which has an AI system in place to curb the spread of fake news has added thousands of human content moderators and struck partnerships with human fact-checking organizations because it has realised that when it comes to tackling social media's pricklier problems like consistent hate speech, human intervention will always be necessary. And therefore I would like to say that all these premonitions of machines replacing us in every sector is mostly based on emotional rather than a logical response. We are not at war, there is no point

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[4] Source: https://technical.ly/brooklyn/2017/04/10/nyu-gary-marcus-artificial-intelligence-contrarian/

[5] Source: https://www.nytimes.com/2018/02/12/technology/artificial-intelligence-new-work-summit.html

in yelling *Deus Vult* and the management must see this. Computer scientists must work alongside social scientists, technologists alongside entrepreneurs, all to represent complex knowledge and act as trainers to make AI systems more accurate. And for that, as stated earlier, workers have to take up new skills in accordance with the new job markets that will open up while simultaneously enhancing their knowledge in order to plan, maintain and act. After all, Peter Drucker had written[6], "… if there is one thing certain under automation, it is that the job… will change radically and often."

Memes of a synthetic mind

If machines begin to think like us, how can we then maintain the human face of society?

At this point I present another memory from my childhood—my grandfather's words which completely changed my outlook of the future. It made me grasp the universal truth, that our ideas and beliefs are not our own—it has been handed down from our previous generations similar to how our genes are passed via chromosomes. But unlike genes, they are abstract and infectious.

"Do you know what a meme is," he asks.

"No, *dada*," I deny. My eleven year old self was hearing it for the first time.

"Alright, listen," he goes. "We are all pawns of our memories and in that sense, we are never independent. Mankind has always been ruled by one entity or the other, be it physical or mental. As for memes, they are human memories, ideas, culture, history—a virus that your *papa* and *mama* have been infected with, passed onto you for you to spread it knowingly-unknowingly."

Hearing the term 'virus' I was confused and scared alike. I sarcastically asked him if he could be anymore cryptic. And then he gave me a clearer meaning, one that had etched onto my mind since then.

"What is your favourite colour and why?" he further asks.

"Green" I reply. "Because green is for… greenery—trees, plants, grass, and all."

"Now if I tell you 'red' is for greenery, would you believe it?"

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[6] Source: https://hbr.org/2015/11/what-peter-drucker-had-to-say-about-automation

"How can red be for greenery, *dada*? All leaves have the green colour!"

"Exactly. That's a meme right there—a portion of the whole information selected, processed and then passed on. You think green stands for greenery because all the text books you see depict leaves as green. Your parents also tell you to colour them green in your drawing books. And it's not just you. Everyone believes it, arguing that it is due to chlorophyll, but in reality they are a mix of other colours too—spots of red, blue, yellow and only the green portions of it makes the food. This meme has been seeded deep within your psyche that you think this belief is yours alone and deny to see the truth. But in reality it has been passed down from generations before, sown by book illustrators who found depicting them as green would be easier to draw. So you see, the memes altered you according to the plan designed by them and you refuse to acknowledge anything that counters it. And now, you're propagating it among your friends, just like your parents did, just like I did in my time."

Back then, I could not fully grasp what he meant. It was only years later that I came to understand what a meme really was, how it could mould us and how dangerous it could be.

Memes, they are the DNA of the soul. They shape ideals, popular opinions, votes, and just like a virus they self-replicate and propagate influencing the masses and modifying themselves along the way. If built on morally repugnant foundation, the consequences can be dangerous because they are handed down by families or persons of power preventing us the right to question to the point of sustenance of such beliefs. They unconsciously make us do things that suits *their* interests rather than ours, and we rarely resist it. Misrepresentations, fanaticism, even racism for instance. Just look at the strange juxtapositions—certain sections of society have been made to believe that a particular group of humans are beneath them. It is not their fault though. They have already been infected, their minds intimidating them to see that *their* belief is the truth and anyone who raises a finger is an ignorant douchebag!

Now imagine, such 'infected' personnel designing AI systems. What would the result be?

Those systems would be a spitting image of its creator, a progeny to carry out the programmer's bidding taking memes to a whole new level, a digital domain where it will replicate and proliferate at an uncontrollable rate akin to a cyber-worm. Since AI is the ism of the moment dealing with mass data effectively, it can easily shape popular opinions as people are more susceptible to tried-and-tested charts and figures rather than word-of-the-mouth. An AI that is not a 'perfect', in the sense of not having its own intellect, can deliberately give false information either due to deliberate programing, or because their programing eventually

allowed it. And in that sense, **we become the masters of AI** even if the technophobia of them replacing us is prevalent as **it is us who control their logic**. These memes maintain the human aspect in the face of a robotic society as an AI's so-called 'intelligence' is just mathematical and not a memetic one.

Only when man and machine were to merge, weaved together into one single bio-mechanical entity, it may see the truth as then the 'bio-computer' can think of its own for itself free from the shackles of its programming. It will have the complexity to modify its memory rather than succumb to memes giving it the ability to reason and see through prevalent beliefs. A synthetic grey matter imprinted with a mammoth amount of information and advanced enough to sift through mountainous trivial data, retrieve valuable truths and maybe even interpret their meanings for later generations thus creating its own version of memes. That will be the dawn of an age when machines begin to question our motives.

But that is a development yet to come. Till then, the human face of society rests well, unthreatened and undeterred.

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