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Computers Aren't Going to Replace Us, But They Just Might Sell Us

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A new economic model has been set up in Silicon Valley: surveillance capitalism. It has been so successful that in just the last decade, Amazon, Google, and Facebook, all young companies founded less than 30 years ago, have become some of the most valuable public firms in the world. Together with Apple and Microsoft, which complete the club of the five technological giants, the most important actors of this sector gather our data any way they can and make money off it.

The technology that makes this new model possible is artificial intelligence (AI), the very one that creates the incentive to gather more and more data, including personal information. However, for us, artificial intelligence mainly evokes robots, and if the term sparks mistrust, it is because of the perceived danger that "intelligent" computers could sometime in the future replace humans. Paradoxically, the role that artificial intelligence plays in surveillance capitalism involves a real risk —and not in the future, but right now—, but it goes almost unnoticed.

Artificial Intelligence

It is true that computers have become more "intelligent." Deep Blue became the first computer to beat world chess champion Kasparov in 1997, but it took 19 more years before AlphaGo could beat Lee Sedol in 2016, becoming the first computer —or to be more precise, the first algorithm— to beat a professional Go player with the highest 9-dan rating.[1] The Go playing board is larger than the chess board and offers many more possibilities on each turn; this is why for a long time it was considered beyond the reach of artificial intelligence.

Both events received a great deal of attention in the media of their time. The milestone of a computer beating the best of the humans is rather surprising and also alarming. On the one hand, the champion represents all of us, and on the other hand, the computer symbolizes technological progress. The match is a true clash between humanity and its own creation; the terrifying part is showing that a computer can be super-humanly intelligent. Or can it?

In a certain sense, nothing is surprising about computers doing certain tasks much better than we can. In one area they trounce us completely: in the number of arithmetic operations they can do in a very short time —that number actually reaches billions per second for a desktop computer. We can therefore expect that machines will excel in tasks that can be formulated in mathematical terms. Recent successes such as AlphaGo's are due

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precisely to the fact that a new class of algorithms has been discovered in the field called "deep learning," which achieves just that for a large number of new tasks: language processing, recognition of images, photo and video editing, and writing journalistic texts about simple pieces of news.

However, in the video *How Smart Is Today's Artificial Intelligence*, journalist Joss Fong explains that artificial intelligence is not super-human at all. "Most of today's AI can only do one task. . . . Don't get me wrong: it can be really good at that task. The mistake is to assume that these focused applications can add up to a more general intelligence or that they learn like we do, which is simply not the case." Artificial intelligence is "pattern recognition masquerading as understanding."[1]

Without a mental model of how the world works, no matter how basic they might be, many of the tasks we humans carry out, like telling a story or analyzing a social problem, will continue to be out of computers' reach. Joss Fong summarizes this magnificently, saying, "Machine learning algorithms can translate 37 languages, but they don't know what a chair is for." That's why the risk that robots will one day replace us continues to be very low.

The Revolution of Data And Surveillance Capitalism

Many free digital services are free because the companies that offer them have found another way of making money, almost always through advertising. To surf the Internet is to be exposed to ads in the mail, on news or video websites, or on social media. And it is true that almost since the Internet was born, cookies have done things that may seem invasive to us —have you ever looked for a product on line and now it follows you wherever you go? However, for a few years now, this has become even more the case. Do you see ads from a restaurant a friend of yours recently visited? Does your social media recommend political news that you tend to agree with?

Artificial intelligence is the technology that makes these new forms of advertising on the Internet and social media possible. It is useful for making predictions and fulfills two complementary aims. On the one hand, it selects content (videos, articles, or your friends' comments) that will keep you interested and therefore connected.

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On the other hand, it decides which ads may seem most relevant to you and have the greatest possibility of prompting a sale.

The products on sale are the predictions, and the buyers are the advertisers. But this requires a large amount of data because AI algorithms need them to make precise predictions. That is why the technology sector has had to look for —and has found— a practically inexhaustible source of data: our own virtual footsteps. Whether on social media, or in wide swathes of the Internet, our actions are watched: the pages we visit, the e-mails we open, the videos we watch (how long we watch, when we come back or stop watching), the friends we speak to, the political opinions we read, the medical advice we seek, and even the pornography we watch.

This new business model, in which as much personal data is gathered as possible to sell the greatest certainty to advertisers, gives rise to a new economic paradigm called "surveillance capitalism." With all that data gathered, companies can construct a model of who we are: what our personality is like, our ideology, if we're religious or interested in ecology. In short, the companies have a better idea of how we'll respond to this or that stimulus, and they monetize that by ensuring that the advertisers (their real clients) are as effective as possible. Advertising, augmented by artificial intelligence, knows better than we do what we desire.

Questioning the Economic Model

It is sometimes said that when a service is free it is because the user is the product. But for computer scientist and philosopher Jaron Lanier, interviewed in the documentary *The Social Dilemma*, "That's a little too simplistic. It's the gradual, slight, imperceptible change in your own behavior and perception that is the product. . . . Changing what you do, how you think, who you are."[3] Social media in particular have been designed to keep us mesmerized, maximizing the time we are exposed to publicity, and the

slogan "Facebook helps you connect and share with the people in your life" is clearly rather ironic.

In the sector itself, many argue that the new economic model has its benefits, and if we are going to be exposed to advertising anyway, it is preferable that it be about a product that interests us. But I cannot help but be surprised that in this business model, it is the intermediary that is all-powerful and that intermediary can determine almost without competitors the price the advertiser must pay, and, what's more, benefit financially based on the data that I generated, something personal by definition. In my opinion, the cost of hyper-personalized advertising is too high.

On the other hand, it is true that e-mail, search engines, mapping services, and even at a fundamental level, web servers and smart phones make our lives easier, and it's hard to think about going back to a time when we did not have the tools of a digital world. Surveillance capitalism can be seen as the price that must be paid for having all these digital tools. However, I think that this is a false dilemma: in any case, advertising is the price that must be paid, but not surveillance. It is perfectly understandable that a free service be maintained thanks to ads —I'm thinking of ad spaces at bus stops— and in fact, advertising has been a way of making money with a web site since the origins of the Internet. What is new in the surveillance capitalism model, and what seems dangerous to me is the optimization based on artificial intelligence that requires our personal data.

At the end of the day, surveillance capitalism is surveillance. Companies are subject to the laws of the country in which they operate and they may —and in fact already do— cooperate with the authorities, for example in the investigation of a crime. However, what if the crime were participating in a demonstration against the government? In that case, would we want an authoritarian state to have access to our personal data? Mexico is usually not considered an authoritarian state, but would we accept it in our country, where the government has used the Israeli software Pegasus to spy on journalists and activists?

As if that were not enough, the social media have shown themselves to be very efficient platforms for distributing false information, hate mail, and even for broadcasting acts of violence live. Although it is difficult to quantify, many social scientists attribute to the social media a certain amount of responsibility for increasing polarization or phobias (xenophobia, Islamophobia) in our societies. Proof of this is that the enemies of liberal Western societies have used them precisely to exacerbate our divisions, such as Russia's interference in the 2016 U.S. presidential elections. If these are ideal platforms for manipulation —even initially commercial manipulation—, why would they not be used to manipulate us politically?

Dominating Technological Change

Unfortunately, we can do very little individually to change this situation. As users, we can choose tools like the Mozilla Firefox web browser or the DuckDuckGo search engine, which emphasize protecting their users' privacy and promise not to gather personal data. In general, it's a good idea to take the time to deactivate personalization cookies when sites allow it and refuse applications permission to use our location without a valid reason. All these actions return to us a modicum of control over our personal data.

However, for Lou Montoulli, the engineer who invented cookies, "There are billions if not trillions of dollars at stake, and if we want to make substantial change to the methods with which tracking and advertising is [sic] done, it's going to have to be done at a legislative level."[4] The European Union's General Data Protection Regulation (GDPR) and the California Consumer Protection Act (CCPA), which came into force in 2018 and 2020, respectively, point in the right direction, although much is left to be done, above all from the point of view of compliance with the law. We have to inform ourselves and talk about what is at stake because only a critical mass can demand legislation opposed to these powerful commercial interests. Our personal data are too valuable, and surveillance capitalism cannot be the economic model of the future. **M**

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Notes

1 Go is a traditional Chinese strategy game.
2 Joss Fong, "How Smart Is Today's Artificial Intelligence," vox.com, December 9, 2017, https://www.vox.com/videos/2017/12/19/167922 94/artificial-intelligence-limits-of-ai.
3 Jeff Orlowski, *The Social Dilemma*, Netflix, 2020
4 Lou Montoulli, "How Ads Follow You around the Internet," vox .com, February 3, 2020, https://www.youtube.com/watch?v=HFyaW 50GFOs.