



Panelist paper

Geopolitical Implications of New Technology: A French Perspective

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During the 2017 French presidential election, the socialist party's candidate Benoit Hamon advocated for a universal basic income. Arguing that the progress of artificial intelligence (AI) and robotics will destroy three million French jobs in the coming decade, he insisted that the workers replaced by robots or algorithms still be paid.

The winner of the election, Emmanuel Macron, rejected Hamon's idea. However, after one year in power, Macron has shown an interest in the potential harmful effect of new technology on the cohesion of French society, and, more broadly, on the world order. Several official reports released over the past few months have focused on new technology.

First, the *Strategic Review of Defense and National Security* was published in October 2017.¹ It includes a section on disruptive technological and digital innovation that stresses a double risk. On the one hand, "major powers are stepping up their efforts to develop leading edge systems (such as hypersonic and stealth), creating a risk of Europe lagging behind." On the other hand, operational leveling risks—due to the widespread use of new technology, such as encryption or geolocation—benefit nonstate or hybrid actors.

Second, in February 2018, the French government released its first *Strategic Review of Cyber Defense*.² It describes evolving cyberspace threats and underscores that major attacks can have "critical consequences for the Nation." The review notes that cyberspace still lacks efficient international regulation and global powers have divergent perceptions of "the international security architecture that should govern relations between states in the digital age." Hence, it recommends a reinforcement of French cyber defense capabilities and the establishment of a doctrine for action. In order to avoid cyberspace conflict, the review promotes three principles: prevention, cooperation, and stability. Moreover, according to this review, private sector activities should be better regulated (e.g., through promotion of a ban for private actors to take offensive actions, better control of exports of offensive technologies, and so on).

Third, in March 2018, Cedric Villani, a newly elected member of parliament, presented a report on AI to the French parliament.³ Villani is a world-class mathematician and was awarded the Fields Medal in 2010. He belongs to the same generation as Macron and began his political career in 2017. In his report, Villani underscores that France and Europe are currently lagging behind the United States and China in the field of AI. He quotes Russian President Vladimir Putin, who declared in September 2017 that the nation that leads in this field "will be the ruler of the world." In the competition for AI, one of the most important factors is the governance of data (often described as the fuel of AI). Villani's report sets an objective: "making data a common good." In other words, data that currently belongs to a few technology giants—Google, Amazon, Facebook, Apple, and Microsoft (GAFAM) in the United States and Baidu, Alibaba, Tencent, and Xiaomi (BATX) in China—will have to be open and shared. Data portability is thus an important weapon in the battle for AI capabilities.

Another critical aspect is the capacity to invest. In this respect, France can only have a limited effect. The

GAFAM's market capitalization (over \$3 trillion) is superior to France's gross domestic product (around \$2.7 trillion). Facebook's market capitalization lost \$70 billion in ten days after the Cambridge Analytica scandal. By comparison, the annual budget of the French defense ministry is around \$40 billion. In a significant effort, the French government will invest \$1.85 billion of public funds in AI over the next five years. However, it shows that a country like France cannot really become a major contributor on its own. It is only at the European level that France can compete with the United States and China.

A common term in all of three of the above reports is digital sovereignty. This expression echoes another term used as a title for a French parliamentary report in 2013: digital colony.⁴ The rapporteur, Senator Catherine Morin-Desailly, wanted to raise the alarm, so she said that if there was no political change in the European Union, Europe would become America's online colony. The colonization has become a fact. In France, if one analyzes the connections to the twenty-five most popular websites, almost 80 percent of traffic is directed to American platforms.⁵ The situation is even worse in other European countries (Belgium, the Netherlands, Spain, and the United Kingdom, among others) but it is completely different in China and Russia. These two countries manage to retain the vast majority of their domestic internet traffic and related data.

This raises the question of what is to be done. In March 2018, Macron gave an interview to *Wired* magazine, in which he presented his vision of AI and, more broadly, of the effect of new technology on democracy and the balance of power.⁶ He insisted on the need for a double regulation—regulation that, on the one hand, creates an environment that encourages innovation, and, on the other, protects citizens against the power of the biggest platforms. In this respect, new rules are currently being implemented in Europe both at the national level (e.g., the NetzDG law in Germany) and at the EU level (e.g., the General Data Protection Regulation). In the *Wired* interview, Macron also highlighted the concept of responsibility. He wants to foster innovation and encourage the development of AI, especially in health, transportation, energy transition, and defense. But he insists on the need to maintain the role of humans: humans—not machines—should be responsible for actions. This is especially true in the military domain, where Macron highlighted the dangers of lethal autonomous weapons that would be able to kill without “a human check.”

The concept of responsibility is linked to openness. Algorithms are becoming increasingly complex and often presented as a black box. Macron wants to open this black box. In the decision-making process, humans—including political leaders, who are responsible to the nation—can be helped by algorithms, but need they to be sure that algorithms are not biased. Hence, it is necessary to promote the openness of algorithms and of the data that feeds them.

The French government shows a strong determination in shaping its technological and geopolitical environment. The current phase is one of national and European build-up in terms of technological capabilities and regulations. This will likely create tensions with non-European states and tech companies. Intergovernmental and public-private forums need to be preserved to avoid an uncontrolled escalation of these tensions.

Notes

1. *Strategic Review of Defence and National Security 2017* (Paris : French Ministry of the Armed Forces, 2017), <http://defense.gouv.fr/english/dgris/dgris/evenements-fr/revue-strategique-de-defense-et-de-securite-nationale-2017>.

2. *Strategic Review of Cyber Defense* (Paris : Secretariat-General for National Defence and Security, February 2018), <http://sgdsn.gouv.fr/evenement/revue-strategique-de-cyberdefense>.

3. Cédric Villani, *Donner du sens à l'intelligence artificielle. Pour une stratégie nationale et européenne* (Giving Meaning to Artificial Intelligence. For a National and European Strategy), Parliamentary Mission from September 8, 2017, to March 8, 2018.

4. Catherine Morin-Desailly, “The European Union: a Colony in the Digital World?,” French Senate Report No. 443, March, 20, 2013.

5. “Data Flows Massively Captured by the United States,” Chaire Castex de Cyberstratégie, <http://cyberstrategie.org/?q=fr/flux-donnees#expanded>.

6. Nicholas Thompson, “Emmanuel Macron Talks to Wired About France's AI Strategy,” *Wired*, March 31, 2018, <http://wired.com/story/emmanuel-macron-talks-to-wired-about-frances-ai-strategy>.