E. European Impact

Geopolitics in the Era of AI : Upending assumptions

ESCP Impact Paper No. 2022-13-EN

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Abstract

It is trendy but not altogether misleading to characterize our current socio-economic era as a fourth industrial revolution, also termed the Age of AI. In an effort to understand the essential discoveries, applications and influences of this era, we use labels – for example, digitalization, Machine Learning, autonomous systems, predictive algorithms, 5G, Web3, metaverse, blockchain and DAO. The list seems to expand by the day. The language is often intimidating and obscure, even contributing to deeply antagonistic geopolitical and socio-economic boundaries. To make sense of how to situate ourselves within these cross currents we often defer to a linear assessment of geopolitics, based on the "industrial revolution" precedent. If we put aside jargon and crowdsourced analyses, if we allow for wholesale reinterpretation, what do we discover when we move from abstractive layers and learn from AI as the defining authority? Is there something intrinsically ahistorical about this Age of AI and the influence of digital technology in challenging our geopolitical constructs?

Keywords: Artificial intelligence, Industrial Revolution, Digitalization, Interdisciplinary study

Geopolitics in the Era of AI: upending assumptions

"...the essence of technology is by no means anything technological." – Martin Heidegger (The Question Concerning Technology and Other Essays)

To define geopolitics is not only an opportunity to question our dependence upon analytical frameworks, but in this era of AI to question ourselves as much as our cherished opinions and inherited doctrines. Certainly geopolitics is understood according to the activity and environment in which it exists, and we borrow upon historical insights to explain the geopolitical tangle of state rivalry, multinational monopoly growth and public anxiety. Yet historical predicates may not be illustrative. How then to introduce and embed our assessment of AI – given its scale, scope and speed - as central to the discourse of geopolitical competition?

In examining geopolitics in the era of AI we turn initially to a particular audience, perhaps the most germane one, allowing ourselves, as teachers, to be more teachable than the apprentice, more of a learner than the learner.

The Students

In a recent MBA class in Paris most students were from throughout the EU. Others were from countries now enduring a collision of hyper-nationalism, kleptocratic autocracy and a rabid rebuke of geopolitical cohesion. Regardless of background, students struggled to explain their individual and collective apprehension regarding political and socio-economic tensions. The study of artificial Intelligence added to this unsettled view of professional and vocational aspirations. Given the intensity they carried into the classroom another concern was self-evident, the nature of thinking, what Heidegger suggests is a response to a call, a necessity, a question: where do we belong?

These students live in an inherited geopolitical environment - something they define as chaotic, ominous, and unraveling. From the students' perspective, AI introduces a layer of complexity and displacement as they earnestly work to understand the concept of machine learning, the ability of a digital technology not just to automate a function, but to learn from interactions with its environment in order to construct optimized functions. The study becomes increasingly challenging when examining data surveillance and profiling, the persuasive and predictive AI that pervades digital social networks and autonomous systems.

We also examine the controlling elements of the entire AI supply chain, from the human source fueling datasets that AI technologies need to learn from, to research and development and technology transfers, as well as AI's ultimate effect on society. As one student commented: "Something within us wishes to flee from this. We have our bags packed, but we don't know where to go".

What the students revealed is a sincere questioning of purpose and future. There are few compelling answers to questions orbiting around AI's influence: there is no closure other than what is unimaginable, some form of digital dystopia. Despite this paradox of asking cogent questions without the expectation of definitive answers, perhaps because of this paradox, the vibrant, vulnerable and intensely focused students are determined to learn - as evidenced by palpable classroom attention, a defense against the savage irredentist, a drum beat coming from the not too distant horizon.

A student, whose homeland drives a deepening spiral of obscene and terrifying destruction, sat quietly following a class on data privacy and what students had termed "perversions caused by social media disinformation". She approached the instructor, her expression suggesting a diminishing sheltering ring of possibility. She says with scarcely conscious bravery and sorrow, "I don't understand. I don't know what to believe."

She has distilled the questions that had dominated the previous class meeting: the abuses of social media and platform dynamics, digital technology addiction, surveillance capitalism, and data privacy exploitation. The list of issues students identify is considerably longer, more carefully conceived. They are impatient with abstraction, aggregated statistics, and casual juxtapositions. They ask for evidence, wary of facile descriptions, and especially wary of conclusive verdicts that suggest there is an all-encompassing resolution.

We work to avoid becoming abstracted and dazed, sometimes privileged with unanticipated insights, even if only for the duration of one inexplicable moment, becoming aware of our own struggle to understand geopolitics and AI's piercing dominion.

There is something unsettling here. The students work for these brief flashes of insight, whereas algorithms, data sets, and deep learning computations linger forever. These students delve into the applications of AI, asking to understand its influence and repercussions, though AI doesn't in turn help with our education, remaining elusive and opaque, a digital technology form of *Deus absconditus*.

In "Pilgrim at Tinker Creek", Annie Dillard recalls a story about an Eskimo hunter who asked the local missionary, "If I don't know about God and sin, would I go to hell?" "No," said the priest, "not if you did not know."

"Then why," the Eskimo asks, "did you tell me?"

We are told because, regardless of unsettling headlines, there is a shared necessity to understand.

Reinterpreting Geopolitics

As we shift into the third decade of this century, making sense of geopolitics seems increasingly challenging, as if we have entered a "geopolitical winter" - to borrow a term which underscores disappointment with artificial intelligence applications from the 1970s - 1990s, as well as cryptocurrency's current valuation crash. Political analysis generally interprets this condition as the legacy of colliding fractious politics, corrosive ideologies, greed, and overwrought enthusiasm, obstructing our grasp for what Epictetus considered an integral part of what it means to be human: "rational faculty", one of reasoned proportion.

We recognize, belatedly, that practically every liberal democracy is contending with populist political movements, nativism, xenophobia, contempt for civil society. There is widespread abhorrence for the very managerial class, entrepreneurial and "cosmopolitan elites" that use such language as "geopolitics" and "globalization". Accompanying the increasingly

distinct geopolitical and societal divisions, are accelerating and astounding AI innovations, altering business models, value creation, wealth and income distribution, as well as the imposition of a rigid hierarchy – the gatekeeper for social mobility. Does the expansion of AI's influence fuel burgeoning shabby civil unrest, perhaps more accurately described as incipient volcanic nihilism?

Are conventional inquiry and conventional conclusion sufficient?

To understand the term "geopolitical", we cite flows of trade, capital, information and people, their trajectories, and how countries compete to control these features for political advantage with an international and global dimension. Some respected analyses even view the 21st century tumult as cyclical. For example, as detailed in "The State of Globalization" by Steven Altman and Caroline Bastian (Harvard Business Review, April 12, 2022), "the fundamental drivers of success in global strategy remain unchanged."

Can we rest with this conclusion? Are we satisfied with this outmoded lexicon?

The Industrial Revolution Paradigm

In academia, we use intellectual map-making tools to guide inquiry. One prevalent tool is the concept of "Industrial Revolutions", introduced in 1837 by Auguste Blanqui, a martyr and leading figure of French radicalism, who was later popularized by Arnold Toynbee and Friedrich Engels. His construct helps in examining modern technology's influence on geopolitical and socio-economic transitions, beginning in the early 18th century with the invention of the steam engine and the subsequent transformation of Britain's textile industry. Subsequent "industrial revolutions" are defined by, secondly, mass production; the distribution of electric power; thirdly, electronic and IT systems as well as automation; and, fourthly, AI and cyber-physical systems

For both Toynbee and Engels, industrial revolutions increased national wealth at the expense of material and moral well-being, and has, to cite Toynbee, "led to a rapid alienation of classes and the degradation of a large body of producers".

Dates vary according to the expert, but the industrial revolution paradigm attributes a linear progression leading to our current fourth industrial revolution. Yet is our era unrelated and discontinuous to what has preceded it? Are we being presented features and a dynamic that we are unprepared to understand, assuming our historical analytical competencies are obsolete?

"Nothing makes you madder than wanting to defend yourself against something you can't even get hold of, something the human race is doing to you, but there's nobody you can grab by the throat." - Stefan Zweig (The Post Office Girl, published posthumously in 1982)

Standing before the abstraction of a digital landscape in 1989, Tim Berners-Lee envisioned the World Wide Web as a shared information space where we would work, play and socialize, using digital technology to analyze data and collectively participate in the making of meaning. Here we would individually yet expansively fit. The World Wide Web was to bolster the democratization of information. We'd find a shared purpose.

Our lived experience however, reveals something different from Berners-Lee's gaze. Today, the mobile web, data analytics and algorithmic applications fuel social media's trivialization and manipulation of news, sabotaging state sovereignty and even our sense of agency. These are the castigating allegations made by the EU which led to recent regulatory

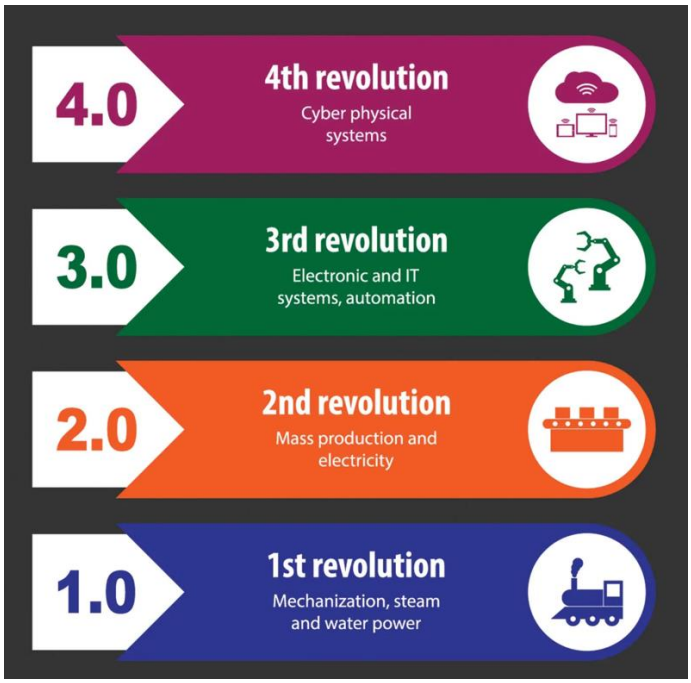
strictures defined in the Digital Services Act and Digital Markets Act. (The U.S. Congress, citing similar "Big Tech" issues, struggles to enact or even define comparable legislation). In this atmosphere, whether on a regional or global level, what then defines identity and allegiance, let alone understanding the complexities of geopolitics and globalization? These are not gratuitous questions, but a probing necessity if we agree that the Age of AI is ahistorical in terms of redefining the scale of industrial revolution disruption.

We work with basic assumptions that have proved reliable in the past. On one level the terms "geopolitics" and "globalization" suggest historically identifiable political and economic spheres of influence, anchored within the realities of China's economic transformation, global economic interdependence, European integration, Russia's irredentism, pandemics, and a potential catastrophic environmental crisis. We assume a base level of pragmatism and sane discourse as an a priori truth, requisite to avoid cataclysmic conflicts.

The Age of AI: Antecedents?

Even if we agree to assign preeminence to things digital, how can we understand the scope of this industrial revolution and accompanying reimagined industries and employment, as well as in its wake the arrival of unanticipated behaviors, norms, regulations, and political divisions? Does our very interpretation of "geopolitics" - in relation to this tumultuous era - deserve wholesale recalibration? Perhaps we interpret and apply Joseph Schumpeter's "creative destruction" as a catalyst to revolutionize our own sense making, to disassemble what is notional.

To agree upon the Age of AI context, consider the framework of the preceding three industrial revolutions. We study each "era" to identify and define the metamorphosing chain of economic, financial, political, psychological, philosophical, aesthetic, and societal changes.



Industrial Revolution

Graph depicting four Industrial Revolutions, in progression from the 18th century to the 21st.

1. First Industrial Revolution: the advent of steam powered factories, incipient industrialization, and employment migration from agrarian to urban settings. Example: During this era in England, machines displace 98% of labor required to weave one yard of cloth.

2. Second Industrial Revolution: application of science, and electric power creates mass production and manufacturing. The advent of global telecommunications.

3. Third Industrial Revolution: Electronics and IT automated production: nascent digitalization

4. Fourth Industrial Revolution. Digital Technology innovation: robotics, Natural Language Processing, Machine Learning, computer vision, AR/VR, exponential increase in computing power, availability of unprecedented amount of data, zero marginal cost efficiencies, platform dynamics, network effects.

   Consider how AI will challenge geopolitical norms, blurring the lines between physical, digital and biological.

   - Connecting the world - **enfranchisement**
   - Fragmenting the world - **disenfranchisement**
   - Decentralization of unprecedented processing power & storage capacity

Potential – long term

- Potential to raise global income levels and improve quality of life
- Supply side miracles: long term gains in efficiency and productivity
- Transportation and communication costs decrease (notwithstanding current fractures and rising inflation)
- Logistics and global supply chain more effective (again, even acknowledging the preemptive implosion in freight infrastructure)
- Cost of trade diminishes (absent punitive tariffs and political brinkmanship)

Darker Potential – near and long term

- Greater inequality (falling share of income and wealth)
- Disrupted labor markets (If we agree that cardinal underpinnings of capitalism are optimization and scale efficiencies, then automation and accompanying worker displacement are the rule, not an exception. Only the scale of unemployment is to be debated)
- Exacerbate gap between returns on invested capital and returns on labor

- "Deglobalized" supply chains, as a splintered internet and AI innovation is tied to nationalist ideology
- Middle class being squeezed, or disappearing altogether
- Worldwide surveillance capitalism, appropriation of an individual's data

AI as an ahistorical phenomenon

The Fourth Industrial Revolution incites dynamics that no other industrial revolution introduced, especially when direct access to the technology is measured. The list of examples is lengthy, but consider the speed of transmission.

- Never before has there been a communications network, used daily in the form of mobile devices by 66% of the world's population (6.6 billion), functioning at essentially unimaginable speeds (electrons move at the speed of light, 300,000 km/sec). In essence, information transmission is instantaneous and ubiquitous. Latency is dusty history.

As of June, 2022 the world's population is approximately 7.9 Billion. The reality: unprecedented access and use of communications technology, specifically the mobile web. Is income and wealth inequality coincidental or an irrefutable result?

- In Sub-Saharan Africa there is greater access to the Internet than to reliable electricity
- 58% of the world population (91% of mobile phone user base) use social media platforms, *daily*
- 95% of social media use is via mobile phone
- The average amount of time (each day) that internet is used by persons 16-64 years of age:
  - Internet: approximately 7 hours
  - Social Media: approximately 2.5 hours
- The poorest half of the global population barely owns any wealth (2% of total)*
- 10% of world's population holds 76%% of worlds total wealth

***World Inequality Data Base, January 12, 2022;** Sources and series: wir2022.wid.world/methodology, Bauluz et al. (2021)

Benefits and trade-offs

The era of AI is defined by dominant technology throughout practically every industry and segment of society, supporting a more interconnected world with its corresponding advantages and efficiencies providing welcomed benefits.

But with benefits come trade-offs, examples being the commodification (and exploitation) of personal data fueling corporate behemoths, data oligopolies, and state architectured industries. As Shoshana Zuboff explains in "The Age of Surveillance Capitalism", the most highly valued companies in the world thrive upon an economic rationale built upon digitalization and an ever-expanding industrial infrastructure, where everything is deposited into data sets, surveyed, interpreted as behavioral data, and funneled through the supply chain's production facilities known as AI. Where is value created? Who captures the value? What authority reigns? The answers are self-evident. Simply look at the market cap of the largest ten largest companies, globally. What industry category dominates ?

AI: an accelerant of dispossession

Hannah Arendt writes in " The Origins of Totalitarianism" (1951) that we live not only with the outcome of the disintegration of the traditional nation-state (resulting from the pursuit of raw political power and disregard of material and utilitarian considerations), but in a world where societies are vulnerable to ideological seduction, filling the void created by "...the experience of not belonging to the world at all, which is the most radical and desperate experience of man."

Digital technology, whether social media or alchemical algorithms, drive the densest layers of neural networks that support predictive outcomes, nurturing divisive categorization. facial recognition, public square surveillance, natural language processing, AR, VR, blockchain and Web3, support a place to find a community and paradoxically an unrelenting accelerant of dispossession and loneliness.

The more we are consumed in and by digital worlds, the more cut off, the more non-belonging translates as seeing the world as more and more hostile, hopeless, deserving of our scorn, or worse. A tragic example: a US National Center study detailing increases in teenage depression and suicidal behavior over the past two decades coincides with the advent of social media. The World Health Organization details that suicide is the leading cause of death among adolescents (10-19) in low-and middle-income European countries, and the second leading cause in high-income countries. The statistics are coterminous with the average time spent online by this cohort: 7 hours/day. (Statista: January 2022)

Living in fantasy land

As described by social psychologist Jonathan Haidt in "The Righteous Mind", digital technology, particularly social media, diminishes a sense of participation, challenging what it means to be a citizen. We are not even required to inhabit the real world for we engage with our communities online. QAnon and the dark web are communities, writ large, of conspiracy fantasy; communities gifted with access to an alternate reality more powerful than actual life itself. How can we make sense of geopolitics and globalization if we acknowledge the appeal of a population that abhors "facts" and belief in anything visible, defining values and life itself according to the influence of ephemeral and fictive digital artifacts? Essentially, we are invisible, not only to others but to ourselves as we create fictional digital identities.

Conclusion

For the economist and political scientist evaluating the interrelated characteristics of industrial revolutions and geopolitics, the traditional disciplines focus on such pertinent issues as production, consumption, distribution of goods and services, and allocation of capital and human resources. These are valid standard assessments; however, they may ignore deeply psychological considerations, an existential ambiguity accompanying artificial intelligence's unrelenting force of change.

Consider 'geopolitical' issues as a philologist might well approach such an imposing term. The protean word "geopolitical" endures ongoing change in shape and proportion, influenced by historical circumstance. There is the traditional definition joining geography with politics; the postmodern usage in the sense that geopolitics is itself politics; a third perspective where any definition is lacking unless we include the critical sensibilities of science, technology (aka digitalization), finance, philosophy, sociology, aesthetics, and

psychology. Essentially all social and natural sciences, as well as the humanities, are relevant in the pursuit of clarity. This « sensibility » is not imaginary; it is put into practice, for example, in MIT's Science, Technology, and Society (STS) curriculum.

In using our understanding of artificial intelligence to revise the concept of geopolitics, consider that the study of science, especially for Europeans, includes philosophy, history, psychology as well as the natural sciences, for artificial intelligence does not think; at least not in the way "thinkers' think." The influence of AI and the all-encompassing technological age, challenges our pedagogy, challenges how we conceive our language, our imposition of geopolitical heuristics, and how we grasp dominion over the earth as well as our capacities for good and ill.

As we assess 21st century geopolitics and the overriding industrial influences of our century - digital technology and artificial intelligence – consider Levi Strauss who maintained that in assessing modern economy, technology, and society, we are essentially mythmaking. Examining geopolitics in an era of AI is a way of explaining ourselves to ourselves.

References

Altman,S and Bastian, S. The State of Globalization. Harvard Business Review (April 12, 2022)

Arendt, H. Origins of Totalitarianism. Mariner Books (1973)

Brynjolfsson, E. and McAfee, A. The Second Machine Age. W.W. Norton (2014)

Frey, Carl. The Technology Trap. Princeton University Press (2019)

Haidt, Jonathan. The Righteous Mind. Vintage (2013)

Zuboff, S. The Age of surveillance Capitalism: The fight for a human future at the new frontier of power. Profile Books. (2019)

Toynbee, A. Lectures on the Industrial Revolution of the Eighteenth Century in England. Methuen Books (1970)