

The art of Technology Diplomacy: strategic reflections on the implications of digital technologies for democracy^{*}

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Abstract

Facing global, regional and even local uncertainties could be easier. More bearable, at least, by adopting a rational and ethical use of the different digital technologies, and especially what are now commonly defined Artificial Intelligence systems that already coexist today with more traditional decision-making mechanisms. What is lacking, however, is the political will, the competence and the transparency necessary to undertake this desire for machine and human beings to complement each other and use technology to the progress of society through democratic governance. The objective of this paper is to outline by steps what we mean by Technology Diplomacy and how practical this “art” can be to contribute helping solving dire societal challenges. To this end, building on previous work, we discuss the fact that whatever the value of supportive digital tools and applications might be, we must go much beyond this instrumental usage of technologies. As a matter of fact, every technology is often itself a stake, to be understood, mastered, negotiated or protect oneself from, depending upon the situations, within multi-stakeholder interactions and an unclear if not entirely open-ended future, which we may precisely shape in interactions with other stakeholders we are confronted with, being them like-minded or not. In this respect, the ambivalence characterizing most technologies, can generate a variety of different dynamics – with different implications on the development of our democratic systems. In the paper we provide some examples of how diplomatic negotiations are vital for governing both digital and non-digital technologies impact at the global level, and we formulate some key postulates for Technology Diplomacy’s pro-democratic moves. This requires a needed consideration of regulations, but ensuring the complexity of such process is correctly addressed, in a future-oriented perspective..

Keywords

Technology diplomacy, digital governance, multilateralism, policy-making, democracy,

1. Introduction: defining a strategic pathway

In the Neolithic revolution already, a shovel could be used to dig the earth as well as to kill someone. Closer to us, with considerable experience by now, we can sincerely ask ourselves

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whether single-purpose technologies are not in fact exceptions. With some imagination, even toothbrushes, soap and umbrellas can generate malicious uses. In terms of IT security, it is quite evident that since nearly the beginning, there has been a puzzling tango dance taking place between the progress made to propose new technological solutions and services and the possible use of these same intellectual and material stock to produce quite different and less pleasant outcomes. This double-edged facet of digital technologies is not necessarily linked to malicious use, the reality is unfortunately more confusing. Langdon Winner, already in the 80s, in his famous article “Do Artifacts Have Politics?”, raises in depth the question of how technology is related to political and social control, a concerned he kept examining during his whole career. “*Technology is politically significant in its own right,*” (..) “*the machines, structures, and systems of modern material culture . . . embody specific forms of power and authority*[1] Winner distinguishes internalized political goals regarding technology (technology embodying a political function), unintended political power gains (technology bringing eventually more than what was expected), and political change including democratic practices facilitated by technology, in all of these three dimensions, the underpinning impact of technology evoked above pervasively applies.

Today, in the particular context of digital technologies, we see this viewpoint remaining quite relevant. Indeed, as a general appraisal, after more than 70 years of computational and telecom progresses, we can safely say that digital technologies have contributed to provide more productivity and to some extent a better quality of life to many, but in parallel, with the same strength and impact their lot of inequalities and oppressive social control. We probably have to live with that, meaning stopping to believe that there exist some inherently, always positive and ethically-robust digital technologies that will keep us safe, on the good side of democratic values. Periodically, with the advent of new technologies, we can observe claims that some of them convey such wonder properties and propose for that a cocktail of smartphones for all, social media to communicate, e-voting and/or blockchain-based decentralised organisations for instant polling or even perfectly democratic decision-making, collaborative platforms for sharing and learning, and why not with Artificial Intelligence superhuman capacities to arbitrate whatever difficulty we may have, with no problems possibly unfolding along the line, of course.

Periodically this techno-idealistic trend re-surfaces. In his book on the history of computing Isaakson (2014) explains that already in its infancy phase (in the 50s and 60s!), computing developed from within a dynamic tension opposing those who were only concerned by calculation and processing performance vs. those who made all they could to bend this pathway towards collaborative and sharing functions (a strand which, if it took time to catch up, is now at least as important as the pure computing throughput). Closer to us, Gaudin (1993), a foresighter and close advisor to François Mitterrand’s innovation programme claimed that the Minitel and beyond that the Internet, diffusing on a network paradigm rather than a “vertical” broadcasting scheme, typical of how power functions, considered that because of that characteristic, a more horizontal and democratic society was to be expected. This idealism linked to the Internet has a bit faded away, but reappears here and there, with contenders claiming that the goal is to defend a “pure” and libertarian ecosystem, vs. commercial or even criminal deviations. We of course have the advantage of historical experience in the matter, allowing us to witness every day that positive values are struggling with hatred, “*communautarisme*” and other drifts of the kind. To summarize: QAnon could not have the same success without social media.

What we want to express with these references, is not that the Internet has been captured by the wrong people, but that the viewpoint considering that there are good technologies, with a root propensity towards high moral values and democratic ones in particular is not only naive, but completely dismissed by experience, to say the least. On the contrary, we now have to understand that we will have to strive hard only to avoid that the most negative dimensions eventually overcome.

2. Disentangling the complexity of our world through digital technologies?

Facing global, regional and even local uncertainties could be easier. More bearable, at least, by adopting a rational and ethical use of the different digital technologies, and especially what are now commonly defined Artificial Intelligence (AI) systems that already coexist today with more traditional management mechanisms, in public administrations, the private sector, large multinationals and SMEs, through innovative (even futuristic) applications. Because yes, all those messages, photos and videos that are shared through social networks contain enough information to know, for example, the prevailing mood in a town or even in a street and, consequently, that a certain organization can adopt one type of decision or another to correct and compensate for a specific situation.

What is lacking, however, is the will, the competence and the transparency necessary to undertake this desire for machine and human beings to complement each other. This battle is being fought at the highest tables, although on a more modest scale it is also possible to pave the way to tip the balance of Artificial Intelligence towards the side of solidarity, participation, equality, or even identity. [] (Misuraca, DPL, interview 2022).

These reflections must be addressed by what we call Technology Diplomacy, an “art” needed to better understand and confront different interpretations of possible futures. Because there is no single future scenario. Everything is changing. Technology advances at an accelerated pace and its repercussions on culture, politics, the economy and social movements can provoke one or another response and, consequently, one or another future.

In this respect, the ambivalence characterizing most technologies, can generate a variety of different dynamics – with different implications on the development of our democratic systems:

- technologies developed with the objective of solving a legitimate and socially recognized problem, but with some inconvenient also to take care of (let’s mention for instance how AI may shape a predictive pathway for an individual’s health);
- technologies that have solved problems but that after some years proved to be a problem (for instance the Vioxx anti-pain medicine);
- technologies which immediately help but create longer-term effects unclearly mastered (e.g., apps to follow the evolution of COVID-19 spread, but which also participate in the development of a super-surveillance society);
- technologies which display upfront a double-edged visage (e.g., AI and cybersecurity issues, used to protect as well as to harm);

- technologies which are de facto controlled by a few countries and private players, for the good or the bad;
- technologies which are upfront un-masterable (e.g., automatic lethal weapons), etc.

What these evoked processes tell us is that technologies are not stable but dynamic assets and processes and to a large extent unforeseeable open-ended constructs. Digital technologies, just like most others, tend to deploy through similar scenarios, with as a root issue, at some point in their development, the emergence of diverging type of facets and co-processes (positive and negative, but also diversely so), emphasizing not their indeterminacy, but what we could call their “multi-determinacy”, with no intrinsically pro-democracy features involved.

In this complex landscape, “managing” these different tracks of how digital technologies may help some values to prevail, but without creating new power relationships, divides and disputable social pressures is impossible ; “governing” them, as for itself, also appears to be a difficult if not unreachable mission, given the existing variety of interests, particular capacities and geo-political stakes crossing the planet; hence our advocacy to work on the concept of Technology Diplomacy to concretely advance some critical democratic goals.

3. Technology Diplomacy 101

The objective of this paper is to outline by steps what we mean by Technology Diplomacy and how practical this art can contribute helping solving dire societal challenges.

To this end, we build on previous works we have done, in particular in the wake of the 2021 Toledo Conference on Technology Diplomacy, when we have explained that a dozen technologies could be useful in the exercise of a diplomatic activity to communicate public results or on the contrary discreet messages, to cypher and de-cypher, to “listen” and surveil situations as well as to counter similar objectives from others, to translate, to facilitate decision-making thanks to AI and other digital technologies.

However, whatever the value of these supportive tools and applications might be, our claim goes much beyond this instrumental usage of technologies, digital or not. Technology is often itself a stake, to be understood, mastered, negotiated or protect oneself from, depending upon the situations, within multi-stakeholder interactions and an unclear if not entirely open-ended future, which we may precisely shape in interactions with other stakeholders we are confronted with, being them like-minded partners or not. How to become 1) efficiently and effectively operational and 2) functionally skilled in these undecided configurations is exactly what we call the art of Technology Diplomacy.

Skills, in the digital technology context, means a combination of 1) technicalities to understand if not fully master, and 2) soft skills to operate in concrete intra- and inter-organizational environments. These capabilities concern not only the activity of professional diplomats in the exercise of their duty, but literally any organization and representatives having to cope with technology-sensitive negotiations, public or private, local, national or international / global. Let’s go one step further in fact, by stressing the multi-lateral nature of most of these situations, the bi-lateral ones being in reality kinds of exceptions.

In the digital world, secrecy has become somehow relative and most such negotiations, be political or commercial, tend to take place with an almost balance access to similar information,

even if never strictly symmetrical, among the different parties. This evolution makes the game theory characteristics and interactions of these multilateral situations of course more complex than in bi-lateral ones, which classically, resemble more variations of the Prisoner's dilemma. We will see, in the coming sections, that in order to make these talents really democracy-minded and socially, other constitutive dimensions still need to be emphasized.

Let's mention a few examples to illustrate why we may need Technology Diplomacy as a critical capability to nurture if the goal, in typical technology-based competitive or even conflictive situations is to reinforce democratic values.

- **Rare earths elements**, like lithium, are not only rare, but tend so far to be produced by only a few countries; one of the principal players, in the case of rare earths being China. Having realized how worrying was their level of dependency, several OECD countries, including European ones are now engaged in trying to identify their own mining potential in that domain, but without necessarily a guaranteed success perspective and for sure, also with a certain delay. De facto, this means, on the part of the European democracies, for instance, that some level of negotiation is necessary, even in case of political tensions or reject towards illiberal activities. This problem is not the only one of its kind. The trend 15 years ago was to accept seeing China becoming the factory of the world, now there is seemingly enough awareness to shift to a more sovereign strategy even if it may take time and some intermediate steps to become really effective.
- **Semi-conductors** are predominantly made in Asia, with China as the main producer, again, with such important other players as Japan, Taiwan, South Korea, Malaysia, the United States and in Europe, but with a lesser global output, Germany. Specialized chips are made in Europe, but general purpose semi-conductors keep being manufactured in a handful of countries and here too, the EU realized its gap, trying now, at all costs, to invest and catch up, although there is no fast-track option. Now, when it comes to inserting these chips in efficient micro-systems supplying a large variety of industrial sectors as well as the military, European countries are better positioned, to the point of leaving the Russian military equipment with a difficulty to maintain, replace or substitute these fancy devices and systems. The way the sudden political block division of the world is emerging reshuffles the idea of a totally open global economy, with on the contrary subtle alliances to make for a transition.
- The recent **COVID-19** let appear a paradox: the idea that if not everybody could be vaccinated, even in developing countries, there was at any moment the possibility for a new disruptive variant to emerge, leaving unsafe the developed countries. To counter that, releasing property rights has been discussed and considerations of how to create a real industrial capacity to produce, maintain and apply the vaccine in these less equipped or rich countries was for a while at the center of the attention. It faded away a bit, but may come back any time, for this virus as well as for others still to come, as the world seems definitely exposed to periodic zoonoses. How to organize such a transfer efficiently and in due time is indeed a tough Technology Diplomacy challenge.
- **Water**, with climate deregulation, average temperature increase and inequalities of access to that vital resource in the world is of course a technological stake of crucial importance, likely to become every year more acute if eco-contextual factors do not change. How then

water is used, transformed thanks to a well mastered value chain in all the accommodated ways of consuming it (drinking, producing energy, irrigation, extinction of wood fires, heating or cooling material, environmental ecosystem for marine species, desalinization issues, etc.), is a decisive access and mastering issue. Water may also be extracted or transformed in a way that often forces several countries to converge or agree on how this can be achieved, with constant conflicts possibly surfacing.

The first two examples are typical of the digital sphere and essential means for the continuation of its growth and improvement. The latter two not so much apparently. But let's not be mistaken, satellite supervision is important as well as most follow-up operations to bring water where it needs to be and in the quality it needs to have to deliver what it is supposed to; digital capacities and skills are also necessary in the case of technology transfer for efficient vaccination in developing countries. Digital technologies can have either a direct, central role, or an indirect or incidental one. In none of these examples, however, we can hope that things will be solved by themselves, without a catalyzing multi-stakeholder effort and expertise, which is where we precisely situate the value of Technology Diplomacy.

Now, one of the problems resides in the fact that only a few countries concretely own, manage or control with a sufficient degree of efficiency either the infrastructure (satellites, submarine cables, etc.) or the necessary ICT expertise and the related organizational competences, an oligarchic capacity which Artificial Intelligence made even more brutally tensional, geopolitically speaking. In such an unequal context, digital means and their underpinning expertise, hard and soft, tend to convey different forms of operational dominance.

However, the concrete way these capacities are operated and developed also involve, willingly or not, a series of values, typical of democratic missions, such as fighting against : 1) permanent or constantly renewed divides and marginalization dynamics; 2) a destructive ecological load linked to our pervasive digital lifestyle; 3) excessive surveillance, with massive data handling and biometrics of all kinds, leading to stealth or even open infringement of human rights and civil liberties; 4) social media and AI used to facilitate discrimination, fake information dissemination and criminal or war-like endeavors; 5) unintended merchandising of private data through everyday life activities; 6) addictions of different sorts.

In any technological assessment and diplomatic, political or commercial negotiation, these six problems are to a certain degree embedded into the complexity of the different party of the systems involved and, in addition to the technical issue overtly discussed, needs also to be taken into consideration in one way or another, or rather said, the way they are handled will make a difference in terms of democratic advances of our societies.

4. Key postulates for Technology Diplomacy's pro-democratic moves

At this stage, some realism must become part of the plot, as Technology Diplomacy is meant precisely to be capable of operating, regarding technological stakes, in real tensional contexts in which some progress must take place one way or another. For this purpose, we have identified six key postulates that should underpin the development of a pro-democratic approach in the

area of Technology Diplomacy, with a specific focus on digital technologies, in the wake of the current debate on global digital governance (see Misuraca and Rossel, forthcoming).

1. The initiatives to solve problems, or even, beforehand, to bring them to the fore and to develop the skills and tools to help make progress is not the apanage of authorized civil servants and Diplomats only. Social innovators, communities of practice, groups of interests who locally or more globally defend not only some assets or territorial rights but also, through them, democratic values, are just as important. We have explained in an article on social innovation in the digital age¹ that grass root social dynamics, at some point of their evolution, had to become recognized if not acceptable to policy representatives and just the same, policy initiatives, at some point of time, also had to be understood, legitimized and supported by grass-root groups to translate particular efforts or intentions into truly transformative situations. This bottom-up interaction with top-down endeavors, if not taking place at all, may lead to failure, process worsening or at least to counter-productive results.
2. Authoritarian regimes are not black holes, in which all democratic light disappears forever... they may evolve, tend to live with contradictions and have to bear that part of its internal population stay sensitive to democratic values, all aspects not to be forgotten; besides, even authoritarian regimes, in our globalized world, have to carry out negotiations obeying a multiple rationale. This means than although the goal of democratic nations is to reduce illiberal regimes' control and influential space as much as possible, by pushing democratic values "whenever/wherever", there are middle of the road situations to work upon that present themselves with regularity, in particular those involving third party countries' intermediation. Technology, in the middle of these apparently non-negotiable contexts, may on the contrary represent real and recurrent chances to push implicit or explicit values forward.
3. In developing countries and emerging economies (now called the Global South), as we can currently observe a varying position regarding a series of political and technologysensitive stakes (water, foods, mining activities, ecological redemption...) on the side of democracy, nothing is clearly and stably acquired. Worse than that, because of the past, even values can become ambiguously appraised (let's admit that democratic countries have not always been absolutely consistent with their values and some resentment may be understandable of course). Technology is often in the middle of how these mixed feelings, as the current digital divides keep being acute. Words in this case may not suffice or even increase the double standard perception some developing countries may have: only concrete projects, commonly developed educational programmes and socio-technologically innovative partnerships, with more or less explicit values to insert in these, will bring a chance to positively reshuffle the deck.
4. Technology Diplomacy's perimeter is not fixed and may include those issues involving technology only indirectly (e.g., agricultural technologies and drone or satellite followup among other tools), like for instance Commons such as the protection or remediation of the Great Barrier Reef, the reforestation of tropical regions, biodiversity, etc.

¹Misuraca and Rossel, forthcoming, Social Innovation in the Digital Age, Encyclopedia of Social Innovation, Edward Elgar

5. Local level/global issues: technology has to be mastered not only when linked to global political challenges but also at local level, with all due specificities with local assets and track records, taking into account the possibility of interacting from a local perspective with other areas of the world sharing similar values and goals. This often means experience sharing, social media and collaborative apps, as well as locally meaningful currencies and information exchange platforms. This local dimension cannot be absent of the technology landscape, only at the cost of disconnecting major private initiatives from reality and as such condemning them sooner or later to inefficiency. A lot of values permeate the local-regional handling of technologies and the level of specialized but also collective skills to make it effective, even more than at the global level: transparency, but also accountability, “shareability” and scalability of positively perceived experiments, inclusive progressions, protection of the vulnerable and sustainable initiatives in the largest sense, to avoid dilapidating energies and motivations over time.
6. We have expressed with variations of our approaches and arguments the fact that there were no inherently pro-democratic technologies. However, the intention counts. It may not always be sufficient to make a difference, but it is indispensable, as it is even harder to believe –and even if we can conceive it, it seems dangerous to rely upon such uncertain fortune–, that in a completely unintended way, digital technologies, like many others before, may become only by chance supportive of democratic values. Technology Diplomacy is the kind of paradigmatic approach and also possible multi-skill-minded toolbox that may suit this capacity-building need, namely how to actually translate intentions in concrete results.

5. Concluding remarks: promoting democracy through Technology Diplomacy

In conclusion, keeping our pragmatic approach, we must remind ourselves that Democratic institutions seem to be like ramparts against illiberal moves and should be defended as such, but most helpful for that would probably be a multiple agenda perspective, with adaptable scoring criteria regarding what is democratic or not. The goal is not to display explicit virtues, but to make sure communication, collaborative projects and social and sustainable innovations may help push history on the safe side of the hill.

We have argued that in that quest, technologies should not be considered for their presumed democratic merit. Instead one should always keep in mind they are only tools and value for action institutions but also networks and communities of practices interdisciplinary and flexible enough to make the lines, move in a variety of contexts and sectors of activity.

As we have said above, this combined capability embodies hard and soft skills, which should not be confined to specialists and diplomats and on the contrary diffuse at all levels. Policy, regulation, governance and the defense of some democratic values should not be the restricted territory of politicians and experts, and on the contrary permeates in the life style and culture of a maximum of different actors (citizens, technology users, inhabitants), *de facto* confronted to a variety of challenging configurations and issues.

This viewpoint making Technology Diplomacy not a substitute to governance, regulation or

policy-making but a complementary means to get involved into the shaping of key socio-economic and cultural transformative processes is becoming even more acute as we need to ensure that a number of emerging digital technologies are rather part of the solution than part of the problem. This concerns in particular Artificial Intelligence but also decentralization-minded technologies like Distributed Ledgers, such as blockchains, smart contracts, NonFunctional Tokens (NFTs), and the emerging – or rather emerged – world of Metaverses, among others, which are developing as potentially strong on both sides of the net.

In this battlefield, however, we need to promote liberal democratic principles not as the expression of a few elites or as the will of countries eager to teach others how to behave, but to a large extent as a collective or multi-lateral endeavor, that reinforce the capacity of all parties and stakeholders involved to better understand the issues at stake, and to find a solution of compromise, that is the core function of diplomacy.

Technology itself will not become per se ethically and human-centric, what we need is to develop skills and a diversified positive case culture, learning from a realistic multi-stakeholder game theory approach how to handle those unclear assets in the large variety of configurations in which they may play a role.

In this perspective, it becomes useful to refer to the concept of “Multi-Track Diplomacy”, i.e. *“a conceptual way to view the process of international negotiations as a living system, by looking at the web of interconnected activities, individuals, institutions, and communities that operate together for a common goal”*.²

Traditionally, reference is made to Track One Diplomacy, which is official government diplomacy whereby communication and interaction is between governments; and Track Two Diplomacy, that is the unofficial interaction and intervention of non-state actors. However, more and more the so called “Track 1.5” Diplomacy is emerging, especially in the digital arena, where multilateral organizations are not necessarily – or solely the decision makers in the field. Multi-stakeholderism is instead often prevalent, especially at technical level to address complex issues, such as the Internet Governance or the ethics of AI, just to mention two key debates.

Track 1.5 diplomacy is defined as a type of “soft diplomacy” - not to be confused with “soft power” – to overcome the limitations in international relations that both tracks of traditional Diplomacy have, leaving a vacuum for some troubleshooting and problem-solving tasks which governments and their Intelligence services are not suitable to be engaged in, especially to consider different options and their implications in a longer-term perspective.

Let’s take for example the case of Artificial Intelligence. When thinking about AI in the future, it is common to imagine robots that rule the world or learn to have feelings, as in many science fiction movies. But where are we really going in real life?

On the one side, as we already anticipated, such set of technologies can be used to improve people’s quality of life if systems are harnessed in a “smart way”. On the other side, as well know by now, we must weigh-up the risks of AI and made sure that international recommendations are

²The multi-track system originated due to the inefficiency of pure government mediation. Moreover, increases in intrastate conflict (conflicts within a state) in the 1990s confirmed that “Track One Diplomacy” was not an effective method for securing international cooperation or resolving conflicts. Rather, there needed to be a more interpersonal approach in addition to government mediation. For that reason, former diplomat Joseph Montville invented “Track Two Diplomacy” in order to incorporate citizens with diversity and skills into the mediation process. See <https://imtdsite.wordpress.com/about/what-is-multi-track-diplomacy/>

defined, so for countries to take advantage of the technology's opportunities while protecting their citizens by the "algorithmic harms" they can bring about.[2]

As for regulation, a human-centric view of AI must be effectively advocated for. This does not mean that it should only be human-centered from a technology-design perspective, but that it should also help the human being, be a more inclusive, responsible and use technology for human and societal development.

At the same time, it is important that regulations do not stifle innovation and economic development. This is clearly a very complicated issue because it is extremely difficult to try to analyze what would be the impact of a law for something that we don't know how it is going to evolve in the future. It may in fact be a matter of 20 or 30 years before we have effectively intelligent systems, and since there is a long way to go we need competence, political will, leadership and training to understand and harness the complexity involved. We also need innovative decisions that radically change the old systems of political decision-making, as the climate change debate is showing, and where the attempt to match the ecological and digital transitions calls for a stronger and key role for Technology Diplomacy, so that solutions to be proposed could be sustainable and support promoting democratic governance worldwide.

Within this context, the European Commission and the High Representative of the Union for Foreign and Security Policy put forward in February 2021 a new strategy to strengthen the EU's contribution to rules-based multilateralism. The Joint Communication lays out the EU's expectations of and ambitions for the multilateral system, suggesting "to make use of all tools at the EU's disposal, including its extensive political, diplomatic and financial support to promote global peace and security, defend human rights and international law, and to promote multilateral solutions to global challenges". As underlined by the High Representative of the Union for Foreign and Security Policy/VicePresident for a Stronger Europe in the World, Josep Borrell, "*We will build stronger, more diverse and inclusive partnerships to lead its modernisation and shape global responses to the challenges of the 21st century, some of which threaten the very existence of humanity.*"

The EU has thus defined clear strategic priorities on issues that no country can face alone and aims to advance more efficient coordination mechanisms around joint priorities and making better use of its collective strength as "one EU". As the Commissioner for International Partnerships, Jutta Urpilainen, said: "*Its democratic and unique regulatory strengths are assets to help build a better world, while its security and defence structures support global efforts to keep, sustain and build international peace and security*".

It is with these words in mind that the art of Technology Diplomacy must be nurtured so to hopefully ensure that future generations could live in a democratic and free world.

References

- [1] L. Winner, *The whale and the reactor: A search for limits in an age of high technology*, University of Chicago Press, 2010.
- [2] M. Kuziemski, G. Misuraca, *AI governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings*, *Telecommunications Policy* 44 (2020) 101976. doi:10.1016/j.telpol.2020.101976.

- [3] I. Aharoni, How technology has revolutionized diplomacy, 2014. URL: <https://time.com/4015667/how-technology-has-revolutionized-diplomacy/>.
- [4] L. Bate, M. Cordova, Technology diplomacy changes are the right start, 2021. URL: <https://www.lawfareblog.com/technology-diplomacy-changes-are-right-start>.
- [5] S. Borg Psaila, Improving the practice of cyber diplomacy: Training, tools, and other resources - phase i - diplo resource, 2021. URL: <https://www.diplomacy.edu/resource/improving-the-practice-of-cyber-diplomacy-training-tools-and-other-resources-phase-i/>.
- [6] S. L. Darwall, Consequentialism, Malden, Mass. Blackwell, 2002.
- [7] L. Diamond, J. McDonald, Multi-track Diplomacy, Kumarian Press, 1996.
- [8] E. Parliament, Working paper on the external policy dimensions of ai., ????
- [9] E. Commission, H. R. of the Union for foreign affairs, security policy, Joint communication to the european parliament and the council, on strengthening the eu's contribution to rules-based multilateralism,, 17.
- [10] E. Commission, H. R. of the Union for foreign affairs, security policy., oint communication to the european parliament, the council, the european economic and social committee, the committee of the regions and the european investment bank on the the global gateway, brussels,, 1.
- [11] C. Feijóo, Y. Kwon, J. M. Bauer, E. Bohlin, B. Howell, R. Jain, P. Potgieter, K. Vu, J. Whalley, J. Xia, Harnessing artificial intelligence (ai) to increase wellbeing for all: The case for a new technology diplomacy, Telecommunications Policy 44 (2020) 101988. doi:10.1016/j.telpol.2020.101988.
- [12] C. Feijoo, R. Blecua, Toledo declaration on a new european initiative for technology diplomacy and artificial intelligence in conflict prevention and mediation, 2021. URL: <https://reimagine-europa.eu/wp-content/uploads/2021/07/Final-Toledo-Tech-Diplomacy-Declaration.pdf>.
- [13] C. Feijoo, The tao of artificial intelligence, tech diplomacy and conflict resolution., 2021.
- [14] U. Franke, Artificial intelligence diplomacy| artificial intelligence governance as a new european union external policy tool, Luxembourg: European Parliament, June (2021).
- [15] S. Fyffe, The impact of technology on diplomacy, 2014. URL: <https://www.gsb.stanford.edu/insights/impact-technology-diplomacy>.
- [16] T. Gaudin, 2100, Odyssée de l'Espèce, Payot, 1993.
- [17] C. Juma, et al., Science and technology diplomacy: concepts and elements of a work programme (2003).
- [18] K. Jovan, History of diplomacy and technology, 2021.
- [19] W. Isaacson, The Innovators, Simon and Schuster, 2014.
- [20] I. Manor, The Digitalization of Public Diplomacy, Springer International Publishing, 2019. doi:10.1007/978-3-030-04405-3.
- [21] J. Manish Kumar, Digital diplomacy: Game of codes in geo-politics - bidd, 2022. URL: <https://www.bidd.org.rs/digital-diplomacy-game-of-codes-in-geo-politics/>.
- [22] Rethinking democracy in the "Pandemic Society" a journey in search of the governance with, of and by AI, IFDaD 2020, 2020.
- [23] G. Misuraca, Governing algorithms – perils and powers of ai in the public sector, 2021. URL: DigitalFutureSociety<https://digitalfuturesociety.com/report/governing-algorithms>.
- [24] G. e. a. Misuraca, Eu multilateralism and digitalisation strategy, 2022.

- [25] G. Misuraca, P. Rossel, C. Feijoo, Technology diplomacy: a whitepaper with reflections on the need for envisioning a new future digital governance at the global level (????).
- [26] G. Misuraca, P. Rossel, Towards leading the digital decade: the need of better understanding and shaping technology diplomacy, in digital society special issue on eu digital policies and eu in the world, (????).
- [27] U. Nations, Our Common Agenda - Report of the Secretary-General, United Nations, 2021.
- [28] D. J. Olsher, New artificial intelligence tools for deep conflict resolution and humanitarian response, *Procedia Engineering* 107 (2015) 282–292. URL: <https://www.sciencedirect.com/science/article/pii/S187770581501036X>. doi:<https://doi.org/10.1016/j.proeng.2015.06.083>.
- [29] P. Rossel, Tech diplomacy and ai: A few concrete steps to consider., 2021.
- [30] F. Vacarelu, Transforming diplomacy with emerging technologies and approaches • un global pulse, 2018. URL: <https://www.unglobalpulse.org/2018/07/transforming-diplomacy-with-emerging-technologies-and-approaches/>.
- [31] D. Wince-Smith, Tech diplomacy needed now more than ever, 2021. URL: <https://www.forbes.com/sites/deborahwince-smith/2021/08/24/tech-diplomacy-needed-now-more-than-ever/?sh=2d2ed03168a2>.
- [32] L. Winner, Do artifacts have politics?, *Computer Ethics* 109 (1980) 121–136. doi:10.4324/9781315259697-21.