The Evolution of Governance: Algorithmic Decision-Making as the New Normal

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Artificial Intelligence (AI) has risen to the forefront of public discourse. The recent rise of big data and computational techniques have brought about new opportunities for participation, organizing and collective action by citizens. If the 20th century engineers of consent had magnifying glasses and baseball bats, those of the 21st century have acquired telescopes, microscopes and scalpels in the shape of algorithms and analytics. These new technologies hold incredible promise for human welfare. They offer us powerful new ways to achieve our shared commitments to each and every one of the Sustainable Development Goals (SDGs), a set of 17 socioeconomic, political and environmental objectives forming and structuring the development agenda of the next 11 years. Against this background, a question one may ask is: what role can algorithms play to make this world a better place? Can algorithms of the Big Data era, and the opportunities, risks and questions they raise, be leveraged as forces of positive disruption?

These Technologies have reconfigured aspects of the public sphere, but perhaps not always in the way that many would like. They have become a key logic governing the flows of information on which we depend and have impinged on how people seek information, how they perceive and think about the contours of knowledge, and how they understand themselves in and through public discourse, providing a means to know what there is to know and how to know it. Yet, it is important to consider who is included in this new configuration, who is not, and how this is like or unlike previous instantiations. We are even invited to formalize ourselves into knowable categories and encouraged to choose from the menu offered, so as to be correctly anticipated by the system and provided the right information, the right recommendations, and the right people. It is important that we conceive of this entanglement not as a one-directional influence, but as a recursive loop between the calculations of the algorithm and the "calculations" of people.

To assess the implications of algorithms and other advanced analytics, a useful approach is UNESCO's Internet Universality ROAM principles. These principles urge that digital development be aligned with human Rights such as freedom of expression, privacy and equality; Openness with regards to knowledge, open data as well as open and pluralistic markets; Accessibility in regard to research, human resources, access to data, multilingualism and hardware; and Multi-stakeholder governance to guide the ensemble of values, norms, policies, regulations, codes and ethics that govern the development and use of algorithms. Tensions exist between some of these concepts. Ensuring the transparency of an algorithmic system might come at the expense of its resilience, whilst ensuring fairness may necessitate a relinquishing a degree of privacy.

Moreover, various approaches to reduce risks and increase the benefits of algorithmic decision-making (and, in particular, algorithmic selection) have been identified, ranging from market mechanisms at one end, to command and control regulation by state authorities at the other. The diversity and quantity of viable governance options (e.g. self-organisation by individual companies; (collective) industry self-regulation; co-regulation – regulatory cooperation between

state authorities and the industry) highlight that there are no one-size-fits-all solutions for the governance of algorithms. In addition, they demonstrate that governance of algorithms (and by algorithms) goes beyond regulating (the design and implementation of) code and the technology itself and involves a wider evidence-based approach relying on risk and impact assessments, organizational approaches, and business models and strategies.

This paper will provide an introduction to the social and cultural forces shaping the construction, institutionalization, operation, and uses of algorithms. In so doing, it will explore how algorithms relate to political issues of modernization, power, democratic debate, inequality and the impact of algorithms in social media, journalism, education, healthcare, policing, and computational technologies. Further it will explore whether and how the future of algorithms, or the future with algorithms, can be crafted such that their development and deployment— from their design to their use, including control, evaluation, auditing, governance—be based on and foster core democratic values such as accountability, transparency, participation, and collaboration. In doing so, it will focus on algorithms affecting public life and policies to maximize benefit for citizens, or 'public good algorithms'. This initiative builds on the success of deep Learning Indaba held in Kenya and South Africa in 2019, 2018 and 2017. The Deep Learning Indaba is an organization whose mission is to Strengthen African Machine Learning.