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Algocracy in the Global South: The threat of a new dependency

Algocracia en el sur global: La amenaza de una nueva dependencia

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ABSTRACT The widespread use of Artificial Intelligence systems in public functions is known as algocracy. However, there is limited research on its implications in the Global South. Considering the concentration of capabilities in developed countries, we state that algocracy raises significant social, political, and geopolitical implications. It has the potential to incorporate the biases and values of the service vendors, reduce sovereignty, and facilitate political manipulation. Furthermore, it could be used as a tool for dominant countries to exert power beyond their borders. Therefore, this paper analyzes the implications of algocracy, as it could lead to the imposition of dependency relations on developed countries in the Global South.

KEYWORDS Algocracy, Global South, algorithm, dependency, artificial intelligence.

RESUMEN El uso masivo de sistemas de Inteligencia Artificial en funciones públicas se denomina algocracia. Sin embargo, hay escasa investigación sobre sus implicaciones en el Sur Global. Considerando la concentración de capacidades en los países desarrollados, sostenemos que la algocracia genera las siguientes implicaciones sociales, políticas y geopolíticas. La algocracia tiene el potencial de incorporar los prejuicios y valores de los proveedores de servicios, reducir la soberanía y facilitar la manipulación política. Además, podría utilizarse como herramienta para que los países dominantes ejerzan poder más allá de sus fronteras. Por lo tanto, este artículo analiza las implicaciones de la algocracia, ya que facilitan la imposición de relaciones de dependencia hacia los países desarrollados del sur global.

PALABRAS CLAVE Algocracia, sur global, algoritmo, dependencia, inteligencia artificial.

Introduction

Based on a logical conception of living beings and machines' behavior, the cybernetic theory states that objective-oriented systems have no substantial differences (Wiener, 1961). Therefore, a cybernetic system seeks an objective and adapts its behavior based on environmental feedback. That is, it learns. In broad terms, states learn based on election results and social expressions (i.e., strikes and electoral outcomes), algorithms based on digital data about individual preferences and social interactions. Thus, it is reasonable to suppose that states and algorithms are cybernetic systems whose functions could be interchanged (Farrell, Newman, and Wallace, 2022). When a set of algorithms assume governmental roles it is denominated algocracy (Danaher, 2016).

Recent research has focused on algocracy's implications for political regimes (Farrell, Newman, and Wallace, 2022), autocracy reinforcement (Beraja and others, 2023; Guriev and Treisman, 2019), human freedom (Danaher, 2016), societal implications (Tirole, 2021), its general risks (O'Neil, 2017), efficiency (Tagiew, 2020), and legitimacy (Chomanski, 2022). Scholars from the Global South have also studied the topic. For example, Nhemachena (2024) and Lemos (2023) analyzed algocracy in Africa and Brazil, respectively. Others explored the broader relationship between technology —specifically Artificial Intelligence (AI)— and the Global South (Belli, 2021), Latin America (Peña, 2023), and Brazil (Gabardo, Aguilar and De Freitas, 2022). Other scholars consider the role of AI in public administration (Coddou and Smart, 2021; Smart, 2024), and there are proposals to prevent algorithmic discrimination in the region (Azuaje-Pirela, 2023; Muñoz, 2021). Nonetheless, this scholarship does not consider algocracy as a cybernetic system, and there is no research on the broader implications of algocracy in the Global South. Hence, we use the categories established by the Global North scholars to explore the topic.

The Global South has particularities that distinguish it from other general analyses (Dados and Connell, 2012). Although there is a myriad of factors, and it is not a homogeneous concept, there are patterns (Gray and Gills, 2016; Williams, Meth, and Willis, 2014). For instance, political systems are compromised by clientelism and corruption and structural weakness in the required elements for AI functioning: data, algorithms, and microchips. Hence, this paper focuses on the implications of the Global South's dependence on developed countries from the domination of the necessary conditions for algocracy. We propose that the possession of fundamental AI requirements by technology companies in developed countries can generate the necessary conditions for the emergence of a new algorithm-based dependency on the Global South.

The remainder of the paper is structured as follows. First, it describes how AI is a cybernetic system. Second, it indicates how the government can be seen as a cybernetic system. Third, it identifies some AI applications for public purposes, thus

demonstrating that some functions that previously were the exclusive realm of states are now shared with AI. Fourth, it presents discussions around algocracy in broad terms. Finally, the social, political, and geopolitical implications of algocracy for the Global South are discussed.

Artificial intelligence as an information processing system

Artificial intelligence refers to computational systems that exhibit intelligent behavior. The concept of AI is controversial because there is no consensus on its definition. However, Rich's (1983: 12) definition is appropriate: "AI is the study of how to make computers do things that, for the moment, humans are better at. In that sense, AI is an ever-advancing process that can respond by adapting to feedback, i.e., a cybernetic system". Therefore, its adaptation to feedback makes it a cybernetic system (Wiener, 1961). AI's improvement and learning process is based on machine learning technology, which allows artificial systems to learn without explicit programming.

AI has three main components for its operation. Algorithms are understood as a procedure for unknowns-solving through a series of finite processes that usually require repetition (Kaplan, 2016).[1] Initially created for solving pure mathematical problems, it was later transformed into tools capable of solving various problems through its mathematical representation. For example, determining the most attractive images to an internet user through the number of clicks they make. These systems operate by taking data (input) to establish patterns that allow solving the objective (output). Thus, the data's variety, quality, and quantity establish the result's precision (output) (Beraja, Kao, Yang, and Yuchtman, 2023; Russell and Norvig, 2021). Consequently, organizations that base their operations on AI are interested in collecting data rich on these features.

However, the data with which the algorithm is fed is insufficient to obtain advantages in the output; the available hardware is the ultimate determining factor (Buchanan and Imbrie, 2024; Hwang, 2018). Since modern algorithms are mathematical representations developed in computer systems and the data must be digitized, the physical systems (microprocessors) that carry out the computational operations are fundamental. In this sense, the speed at which machine learning processes develop depends on computing power. There is a physical constraint for information processing.

Thus, AI operation is a conjunction of the quality of the algorithms, the quantity and variety of the data, and the power of the microprocessors. Machine learning is not the only cybernetic system capable of adapting to feedback: States develop analog functions through human information processing.

1. The definition of "algorithm" according to the Merriam Webster dictionary is available at https://tipg.link/lJzM.

The State as an information processing system

Governments decide on an established political goal and adjust based on feedback (Hansen and Nielsen, 2022). Specifically, democracies are more sensitive to social manifestations and citizens' individual preferences (Besley and Persson, 2019; Mulligan, Gil, and Sala-i-Martin, 2004). Politicians are interested in remaining in office; hence, they want to maintain a minimum satisfaction level in the population (Bøggild, 2020; Shomer, Put, and Gedalya-Lavy, 2016). Even autocracies require certain satisfaction levels to avoid instability situations (Miller, 2015). Therefore, governments process information to adjust decisions like a cybernetic system.

If we analyze the State as a system in which government policies, social protests, and the demands of economic actors behave as the forces of that system, then we could conclude that, *de facto*, government systems behave as systems (Han, 2022). They can self-regulate by creating their laws for the purpose of maintaining the same situation, much like what is often referred to as a cybernetic system. Ideally, government policies in terms of adjustments to the inputs of social, economic, and environmental demands would be in the interest of justice. So that, by means of a Pareto optimal calculation, marginal utility, or some more complex game theory criterion, the best possible combination is chosen for the benefit of all.

However, reducing policies to mathematical models attempts to predict and control the future, in this case, the population's behavior. Under this criterion, once the mathematical model has been designed to face future demands, it would only be a matter of adjusting the model and implementing it again. This way of governing could be considered a cybernetic policy, in which all political interest is reduced to mere information processing.

On the other hand, it is essential to remember that the forms of government have changed over the last fifty years. This illustrates that the transformations in the functioning of the public sector are not new and, moreover, show a certain tendency towards corporatization. The first change considered that to improve the State's administration, a company's management principles should be implemented, of course, with the consequent application of the criteria of maximization and efficiency. This was followed by the government's proposal as governance, understood as corporate governance. Consequently, the State is no longer conceived and managed only as a company but as a multinational, which implies greater demands in terms of growth indicators and reduction of expenses. In this new conception, States compete and share their governance logic with large multinationals and transnationals, and to meet their goals, they assume greater risks, forgetting that it is a State that responds to the needs of its citizens and not shareholders (Dufour, 2009).

Second, in the 1980s, a third leap was made to what has been called technocracy. In this form of government it is assumed that there are global policies and univer-

sal formulas that must be complied with by all States, especially the smaller ones (Centeno, 1993). These policies would be determined by commissions of specialists (technocrats) that visit the countries to explain and force them to implement policies —mainly economic— based on general rules that ignore the particularities and needs of said countries. The recent case of Greece's default is paradigmatic (Reiser and Hebenstreit, 2020).

Up to this point, it has been demonstrated that AI and States behave as cybernetic systems. Now, we will present evidence on how AI is used for public functions. Security is one of the most common. Uses in massive image analysis, maintenance of military instruments, real-time data interpretation to combat hacking and cyberattacks, development of weapons and autonomous transportation, tracking of propaganda movements, and online recruitment of extremist groups are, along with others, operations that can achieve a higher level of effectiveness using AI systems (Hoadley and Lucas, 2018).

AI is useful for public administration (Dwivedi and others, 2021). Unlike traditional automation systems that are predetermined and static, AI systems are autonomous and dynamic (Ahn and Chen, 2020). They can be quickly trained to perform new functions, thus facing the uniqueness of political processes. Certainly, the advantages of incorporating AI in public management imply compliance with ethical (Ananny, 2016; Floridi and Taddeo, 2016), legal (Pagallo, 2018; Wachter, Mittelstadt, and Floridi, 2017), and technical assumptions (Kroll, 2018).

Health services are another promising area of application of AI by public administrations. Today, the healthcare system has accumulated impressive repositories of information from medical records, population data, claims files, and clinical trials. The data could be used to discover patterns and establish insights that are difficult for humans alone to identify (Jiang and others, 2017). Then, AI supports the formulation of diagnoses, predicts the path of disease spread, personalizes treatment pathways, and promotes telemedicine and data modeling to support more efficient formulation, management, and evaluation of public policies (Secinaro and others, 2021). Of course, the use of AI in public health is not free of risks and ethical debates that can arise from bias and errors in data handling, such as threats of preference or discrimination, as well as security risks and patient privacy (Rigby, 2019).

AI also enhances citizen service. Citizen service, the handling of concerns, the streamlining of processes, and the provision of information also present a scenario of great projection for implementing AI technologies in the public sector. For example, using chatbots shows an alternative for communication between the administration and the citizens through algorithms that conduct written or oral conversations (Henman, 2020). This tool allows the administration to manage massive volumes of citizen requests. So, enables effective and timely assistance in the simpler appropriation of regulations, policies, and complex processes in a multiplicity of areas, such as land

registry management, the tax system, and relief applications (Aoki, 2020). However, as in the healthcare sector, the use of AI in providing citizen services reveals similar risks, such as possible discrimination scenarios and violation of citizen data's confidentiality.

In addition to the above, there are also potential contributions of AI in the mobility and transportation sector (Khan, Adnan, and Iqbal, 2022; Machin and others, 2018), fraud prevention (Bao, Hilary, and Ke, 2022), environmental management (Ansari and others, 2022), the judicial system (Sourdin, 2021) and the prison system (Wu, Wang, and Jiang, 2012), among others. Thus, it reaffirms the idea that the inclusion of AI in the management of public affairs, in addition to being a reality, is ethically acceptable as soon as its benefits are ostensibly significant and the risks derived are increasingly preventable, minimizable or, at least, repairable (Floridi and others, 2018). Therefore, the public commitment to management innovation through technologies such as AI must be comparable to its commitment to transparency and respect for the fundamental rights of citizens.

Algocracy: Topics and discussions

Because of the growing application of AI in public functions, Danaher (2016) proposed the concept of algocracy as the massive use of AI in State functions. Although recent, the idea has been a prolific field of study. This section addresses issues related to freedom, bias, and legitimacy of political decisions.

One of the most interesting discussions within the framework of the consolidation of algocratic systems is their impact on exercising citizen freedoms. It is commonly assumed that the incursion of artificial intelligence tools into the exercise of public affairs represents broad mechanisms of observance and control. In the end, those seem inevitable to translate into limitations to several dimensions of human freedom (Frischmann and Selinger, 2018). Although the use of algorithms can make the design and execution of public policies by governments more efficient in many fields of interest to society, it is also estimated that they can be used for actions such as monitoring citizens' online activity, censoring content, or limiting access to information.

Institutions, such as the European Parliament (2022), have pointed out different ethical and legal issues regarding the use of AI. Especially the risk posed by the slowness of legislative cycles due to the speed of technological advances, allowing citizens' rights to be endangered due to the lack of regulation. Also, the Parliament warns that the lack of regulation of the automation of information through AI can generate a scenario of collective surveillance (Gräf, 2017). It could lead to illegal interference that threatens fundamental rights, as well as resulting in temptation for authoritarian regimes since they can: use AI systems to control, exert mass surveillance over, spy on, monitor and rank their citizens or restrict freedom of movement; stresses that

any form of normative citizen scoring by public authorities, especially within the field of law enforcement, border control, and the judiciary, as well as its use by private companies or individuals, leads to loss of autonomy and privacy, brings risks of discrimination, and is not in line with European values (European Parliament, 2022: paragraph 89).

In this order of ideas, the risk of bias and opacity in applying algorithms and AI in public decisions highlights the weakness of their announced neutral nature (Martini, 2020). Indeed, Harari (2018) rejected the idea of the supposed principle of neutrality of AI. He was emphatic in asserting almost prophetically that power will be in the hands of whoever exercises control over the algorithms, with the complex consequences that this represents for exercising citizens' freedoms. On the other hand, authors such as Danaher (2020) point out the difficulty of objectively assessing the positive or negative impact of algocratic systems on freedom. There are different dimensions of freedom, which can be affected in different ways depending on scopes and characteristics that can define the nature of different types of algocracies. Thus, the complexity of the concepts and dimensions of algocracies and freedom require individualized and properly contextualized analyses rather than general and abstract perceptions.

As has been observed throughout this paper, using AI in public decisions is an unquestionable reality and, apparently, inevitable. Also, an important issue that involves the exercise of the public sphere is the legitimacy of its actions (Wallner, 2008). This element is one of the least explored in analyzing the processes of building algocracies. Most of the studies available on the instrumentalization of the use of algorithms in the management of public affairs have pointed to the effectiveness and efficiency of their contribution. However, the debate on the democratic legitimacy of their use is still incipient (Beckman, Rosenberg, and Jebari, 2022).

Legitimacy is generally understood as the belief that the way power is exercised within an organization is socially acceptable (Matheson, 1987; Suchman, 1995). In this sense, the existence and *raison d'être* of an organization such as the State depends not only on what is done but also on how it is done, and whether it is socially approved, i.e., legitimate (Ashforth and Gibbs, 1990). Thus, the use of AI in public decision-making cannot be based solely on an exposition of technical advantages (which may also be questionable due to the opacity and possible biases already noted), but on how citizens perceive its use as an advantage and not a threat to democracy (Chomanski, 2022; Danaher, 2016).

As evidence of the abovementioned, citizens tend to attribute legitimacy at the same level to those processes that are carried out in a traditional way (without the intervention of algorithmic tools) and to those that are carried out in a hybrid way (jointly political and AI-based systems) (Starke and Lünich, 2020). Likewise, the same respondents were inclined to perceive the decisions made autonomously by AI

systems as illegitimate. These findings can be interpreted as a "green flag" for the legitimate use of AI in public decision-making, as long as they keep the human being as the central axis, which is ultimately the *raison d'être* of the democratic model, leaving AI at an instrumental and complementary level (Fricano, 2020).

However, in line with Danaher (2016), while algocracy can be considered a threat to the legitimacy of democratic processes, the speed at which it makes its incursion into the public realm makes it difficult, and even unrealistic, to aspire to a balance that ensures humans are in control of decision making while exclusively appropriating the benefits of AI use. Danaher (2016: 266) even further considers that "the growth of algocratic systems, combined with how such systems are woven into increasingly complex algorithmic ecosystems, may be such as to push them beyond the control and understanding of their human creators".

Algocracy, the Global South, and dependency

Up to this point, it has been demonstrated that AI and the State are cybernetic systems, as they adjust according to the feedback received. In that sense, AI can replace functions of the State. Discussions about algocracy have addressed the distinction between political regimes, methods of governance, threats to freedom, potential benefits, and legitimacy. Although relevant, these do not address a fundamental issue: the dependency between the Global South and developed countries.

AI capabilities are concentrated in a few countries (Lee, 2018; Granados and De la Peña, 2021). Algorithms, data, and computing capacity are not distributed globally. First, algorithms are the result of complex programming processes. The knowledge required to develop these systems is concentrated in the large research centers of the developed world. Programmers have been trained mostly in elite universities in the English-speaking world and increasingly in China, Iran, India, and Russia. In that sense, the knowledge required to create algorithms is not generated in the Global South.

Second, data is collected in a concentrated manner (Lee, 2018; Zuboff, 2023). While data production is a global phenomenon, as the dynamics inherent to the information society are ubiquitous, collection tools are scarce. The most efficient mechanisms result from technological artifacts created primarily by the private sector (Hartmann and Henkel, 2020). In that sense, companies that have achieved greater data collection have done so because their algorithmic systems contribute enormously to the task. However, the state is increasingly relevant to this task. Providing private companies access to governmental data has proven more innovative in AI (Beraja and others, 2023). Surveillance capitalism has made the private sphere of human experience a tradable commodity in data markets (Zuboff, 2023). These firms with global operations, collecting and trading information, are concentrated in a few developed

countries (Franck and Peitz, 2023; Hartmann and Henkel, 2020; Nuccio and Guerzoni, 2019; Webb, 2019). Henceforth, the Global South is a data producer and not a data processor.

Third, the computer systems required to process digital information through algorithms are concentrated in private companies from developed countries (Lehdonvirta, 2022). The components for creating advanced computing systems are manufactured in the United States, some Western European countries, and a few Asian countries such as South Korea, Japan, and Taiwan. For instance, the United States and China account for 53% of global computational capacity and the top five for 71.2%. Intel, an American company, provides almost 70% of microprocessors. Regarding accelerating processors, Nvidia —another American company— supplies more than three-quarters of those (Romero, 2023). This highlights the concentration of production of the physical infrastructure for AI operation in a few developed countries.

We gathered data on AI patents from the Organisation for Economic Co-operation and Development (OECD, 2024) to illustrate unequally distributed capabilities. The dataset compiles the applications for patents in AI-related domains in 2020, based on reports from the World Intellectual Property Organization to determine the Global South countries, we followed the World Economics (2024) classification. This classification considers quantitative indicators such as gross domestic product (GDP), population, and governance, resulting in ninety-nine countries. This methodology has been widely used in scholarship (De Carvalho, Schmid, and Fischer, 2021). Then, we select the Global South countries in the OECD (2024) dataset. A total of 34 countries were on both the Global South and OECD lists.

Table 1 shows the global participation of the top countries in AI patent registration. Around 90% is done by northern countries. The result of China and the United States (57%) is noteworthy. However, the role of China as part of the Global South deserves clarification. Even though it has many characteristics to classify —such as being a non-Western country with colonial legacies, low GDP per capita, and human development— we do not include it. It is the country with the most AI patents globally and is identified as a global leader in AI development.[2] Furthermore, its behavior echoes the practices of traditional great powers concerning less powerful countries —especially in the technological arena—, as acknowledged by scholars from the Global South (Prestes, 2022; Vadell, Ramos, and Neves, 2014). Although China's primary motivation comes from geopolitical pressures (Cai, 2018; Maxigas and Ten Oever, 2023), it competes with the Global North using the same logic: gathering political support and economic benefits through sharing technological expertise (Oakes, 2021; Qiu, Yu, and Oreglia, 2022).

2. Véase el reporte de la Universidad de Standford, "Artificial Intelligence Index Report 2024", disponible en https://tipg.link/mP4I.

Table 1. Top countries in AI-related patents (2020)

Countries and regions	AI Patents
China	3,273
United States	3,100
Japan	1,276
Korea	1,208
European Union	1,184
Total from top 5 countries	10,041
World total	11,131
Concentration	90%
Source: Own elaboration based on OECD (2024).	

Table 2. Global South countries in AI-related patents (2020)

Global South Countries	AI Patents
Singapore	92
India	69
Saudi Arabia	54
Malaysia	13
Chile	10
Brazil	10
UAE	7
Panama	2
South Africa	2
Thailand	2
Morocco	2
Philippines	1
Jamaica	1
Jordan	1
Total of Global South	266
Concentration	2.4%
Source: Own elaboration based on OECD (2024).	

Table 2 depicts a striking contrast. Even though the inclusion of Singapore as a member of the Global South could be discussed, the numbers evidence reality; no more than 2.4% of AI patents are done in this part of the world. It demonstrates the size of the gap in AI capabilities between the North and South. In Latin America, for example, only three countries —Chile, Brazil, and Panama— applied for patents in 2020. It would sum up to 0.2% of the world's share.

The dependency on algocracy's enablers in a few developed countries creates social, political, and geopolitical implications in the Global South.

Social implications

Algorithmic dependence generates the incorporation of programmers' biases and values, and the datasets used in machine learning. Since AI is built on algorithms and algorithms are built on mathematical models, it is inaccurate to assume that al-

gorithms are objective and neutral. Mathematical models abstractly represent processes that predict responses in different scenarios (O'Neil, 2017). As with the other expressions of formal thinking, mathematical models are not concerned with the object they study but only with parameterizing and weighting the variables involved in the processes through calculating probabilities to obtain the most efficient result.

However, in the parameterization of the algorithms, it is in the interests of those who perform them or pay for them to direct the algorithms to the result they want to obtain. This is illustrated by the case of an evaluation of teachers in a school contracted with a statistics company. The final result gave that the teacher who had the best evaluation by students and parents was the worst evaluated by the algorithm, but when faced with questions regarding the reasons or criteria that were raised to evaluate teachers, she did not get an answer (O'Neil, 2017). Also, there is evidence of biases in health systems (Sun, Nasraoui, and Shafto, 2020), race (Obermeyer and others, 2019), hiring (Köchling and Wehner, 2020), and criminal courts (Malek, 2022). Consequently, the algorithmic systems used in the Global South would incorporate the biases inherent to the programmers and the data sets of the dominant countries.

Similarly, algorithms also modify the fundamental values of liberalism, such as rationality, freedom, and equality. They impose new values such as security and control (Innerarity, 2022). This is evident in popular social networking, search engines, and e-commerce applications. Security services are also involved in this issue and are beginning to collect all the information for when it is needed, with the consequent loss of privacy. It seems that 21st-century society cares little about the private sphere. Under these conditions, there is not much left of what the fathers of liberalism —Locke, Mill, and Tocqueville— assumed would be the realization of the liberal world. With AI, deliberation, private space, and liberal values are resolved from mathematical models that are continually corrected and that assume discourses not from practical rationality but from information processing (Han, 2022).

Therefore, as Innerarity (2022: 168) concludes: "In the face of those who have exaggerated its (the Internet's) democratizing capabilities, we now know that the Internet is more of a bazaar than an agora" [author's own translation]. Thus, applying algocracy in the Global South could generate tensions between the region's prevailing values and identities and those specific to the countries and companies that provide the ecosystem.

Another social concern is the extractive implications of developing and running AI systems for the Global South. AI requires mineral extraction and enormous amounts of energy. From rare earth minerals to silicon, the extractive processes are carried out in many Global South countries (Crawford, 2022). Multinational companies are not accountable for the abuses and contamination done in the bottom layers of the complex supply chain. For example, Dell recognized that it could not fully trace its mineral suppliers back to the mines (Crawford, 2022). Moreover, the refrigerating

requirements have raised social worries. In 2023, Uruguay, for instance, faced the harshest drought since the mid-20th century. Google bought land to build a new data center to store YouTube's information, which would use an amount of water equivalent to the daily consumption of 55 thousand people.[3] Even though the social protests led to a modification of the initial plan by the company, it is an illustrative situation of the environmental impacts of AI in the Global South.

Political implications

Using algorithms based in developed countries can reduce sovereignty and political manipulation. Sovereignty is undermined because algorithms incorporate paradigms about how the state functions (Coeckelbergh, 2022). At this point, AI's ability to determine the course of political elections in different countries worldwide is undeniable. Initially, it was believed that its influence was restricted to small democracies where it was easy to manipulate the voter's vote (Brkan, 2019).

However, with the events of the 2016 United States presidential election, in which Donald Trump was elected, it was demonstrated that democracies can be manipulated by social networks, even those that are theoretically the strongest (Howard, Woolley, and Calo, 2018). In the case of Trump, the investigations of the United States Senate showed that Cambridge Analytics took advantage of the lack of control of Facebook users' information to, firstly, perform data mining and, secondly, create a campaign in favor of Trump, which went viral and influenced the voters' decision (González, 2017).

This result was not a last-minute strategy of the Trump political campaign. Research has been going on since the 2012 election on controlling politics to influence the outcome. The experiment was to see how much the mood of Facebook users could be affected by advertising on their walls. The obtained result in 2012, four years after the elections in which Trump won, was to discover that, through modifications in the content presented by the algorithms to users, it was possible to influence the feelings of millions of people without them being aware of it (Lanier, 2018).

Now, the manipulation of citizens' feelings is not a political novelty. It has been employed by politicians since Roman times, only that technology has scaled the effect of fear; first, the printing press with books and newspapers, then with radio and television, later with social networks, and now with manipulation through sophisticated AI algorithms (McIntyre, 2018). Of course, it is not just a matter of Facebook. For example, Google would not have to change its algorithm significantly to "have a dramatic effect on what people know about people and how they vote" (O'Neil, 2017: 229).

3. Grace Livingstone. "'It's pillage': thirsty Uruguayans decry Google's plan to exploit water supply", *The Guardian*, July 11, 2023, available at https://tipg.link/lJmk.

From now on, much of the energy of political campaigns is oriented to identifying the niche population where the campaign proposal will be well received and from data mining to identify potential voters, among whom are undecided, so that utilizing the appropriate mathematical profiles and through social networks, those who think alike can be convinced. It is illustrative that social manipulation for political purposes is not new since what changes is how it is carried out. Therefore, applying algocracy opens the door to a new transformation in the modes of political manipulation in dependent countries by leading AI countries.

In this sense, a third deception is presented to the extent that public space is assumed or overlaps with virtual space, and it is assumed that there is a virtual public space. On the other hand, what does occur is a private mediation in public, since in the end, the algorithms are the ones that determine the searches (algorithms that are listed on the stock exchange and have economic interests), the connections, the information, and the news to which the user has access. This implies that the fundamental division of the liberal world between public and private is being transformed (Han, 2022). But this transformation is not only a spatial issue but, above all, a change of rationality since "discourse is replaced by data" (Han, 2022: 58), where it is clear that "artificial intelligence does not reason, but computes" (59). Therefore, deliberation gives way to positivist information in figures, percentages, and surveys.

However, the rulers in power tend to adjust policies to external interests, accepting technocratic guidelines without questioning them instead of adapting them to the interests and needs of communities, collectives, and society. There is still much to investigate in studying algocracy in the Global South. However, following the intuitions of Jonas (2014), one of the great philosophers of technology of the twentieth century, it could be argued that the instrumental use of algorithms and AI has been assumed for private purposes. Therefore, it is pertinent to think about overcoming the instrumental conception of algorithms and AI so that they integrate the totality of social interests and demands and not only those of one part. Finally, to make evident the responsibility that all political subjects have in this new order, since not only our welfare depends on it, but also that of the whole of nature and of humans not present, namely, those who have not been born and those who, because they are in the back of the algorithm, we do not know, but who are affected by our decisions.

In the era of big data, every choice, every click of the mouse, is recorded, and from that click (the technological representation of the choice), individuals, collectives, and societies begin to be profiled and segmented. Of course, there are successful experiences of using AI in the Global South, such as its application in peace processes, particularly in implementing transitional justice models in which AI contributed to identifying some of the disappeared, who otherwise would have been forgotten. However, the more fundamental task remains, namely, developing a cybernetic po-

litical system with the implementation of AI in a way that goes beyond its mere instrumental use.

Geopolitical implications

The digital realm could be seen as an abstraction. Its functioning is hidden from our daily lives. Almost nobody knows where the servers' farms are located or where the crowdsourcing workers who moderate content work from. Private companies offer new intangible services, of which society ignores its costs: labor exploitation, environmental harm, and individual rights violations. That creates the illusion of a frictionless industry. Saving files on the cloud would hardly be seen as a threat. Nonetheless, that fictional narrative is dangerous.

Since the end of the Cold War another idea gained traction: That globalization and interdependence will create a new world. Borders will gradually disappear, replaced by the supply chains of international trade (Khanna, 2016). That narrative proved false (Farrell and Newman, 2019b). Given that the international system underwent a change in the power distribution rather than a structural transformation, anarchy remains the fundamental feature (Waltz, 2000). Hence, States will keep their competition for dominance (Wohlforth, 1999). Globalization allowed new players and moves on the chessboard (Slaughter, 2017). China is now mentioned in every piece of news; diplomats use Twitter. Nevertheless, the objective did not change. Power is still the means of survival.

Globalization, coupled with the profit-guided behavior of firms, created global networks (Farrell and Newman, 2019a). Thousands of suppliers, factories, and distributors are interconnected worldwide. Some of those networks developed a particular structure: firms with a central position giving them exclusive capabilities (Drezner, Farrell, and Newman, 2021). For instance, the cloud computing industry is led by a small group of private companies processing the most enormous amount of data ever seen (Gillings, Hilbert, and Kemp, 2016). States knew of and exploited such a phenomenon (Farrell and Newman, 2019b). After all, the world was still anarchical and States seek for opportunities to exert power.

The weaponized interdependence theory explains why and how states use networks to exert power (Drezner, Farrell, and Newman, 2021). In the globalized world, countries achieve power through interdependence. Economic (Hausmann and Hidalgo, 2011), military (Brooks, 2005), and scientific (Gui, Liu, and Du, 2019) capabilities are developed throughout global networks. Therefore, States use their positions as central nodes in a network through two mechanisms (Farrell and Newman, 2019a). On the one hand, the panopticon effect. It resembles the Benthamian idea of a centralized all-seeing tower. The digital data boom provided new means for surveillance and training AI systems. For instance, President Trump in 2019 tried to ban

TikTok's operation in the US arguing national security reasons and concerns regarding privacy and data collection (Clausius, 2022). On the other hand, the chokepoint effect. It is grounded on the capacity to limit or exclude an actor from the network. Another example: President Trump banned Google from selling services to Huawei in 2018, thus, the Chinese company was excluded from the most extensive network in the smartphone ecosystem, reducing its benefits and internationalization speed (Cartwright, 2020).

Both mechanisms are possible in an algocratic scenario for the Global South countries. The concentration of AI firms in a few displays the network structure required for exerting power. This represents an outstanding opportunity for using the panopticon effect. Data is required for AI to function. Even though it is stored in domestic servers, it would be shared with AI providers. Notably, the vast array of data includes economic, military, political, legal, environmental, and individual information. China and the United States have an extensive record of digitally surveilling national and foreign governments and citizens (Huang and Tsai, 2022; Kwet, 2019). Also, once algocratic systems are established, providers can use limitation or exclusion —the chokepoint effect— as a tool for power. Disrupting or limiting a State's function is considered a traditional strategy for coercion (Wigell, 2019). In and out of the digital arena, leader states in technology networks have used this mechanism (Beaumier and Cartwright, 2024; Drezner, Farrell, and Newman, 2021). Dependency poses geopolitical risks as well.

Finally, it is noteworthy that the domination practices are not exclusive to Western and developed countries. China has also shown a similar behavior (Mohan and Tan-Mullins, 2019) towards less powerful countries. For example, it has been using its network to influence and build an alliance on the Asian Consensus (Vadell, Ramos, and Neves, 2014). Such is the intensity of China's exercise of power through networks to achieve its illiberal interests that Cha (2023) coined the term "predatory liberalism" to explain such behavior. The fact that China is currently one of the strongest countries in AI classifies it as a potential algocracy provider. The case of 5G networks is illustrative. Once China mastered such technology, it began to install it worldwide. The reaction of northern countries was severe: the United States and some allies banned the installation of Chinese 5G networks since it posed an imminent risk of weaponizing data flows (Farrell and Newman, 2019b). However, countries without the capacity to develop their own technologies accepted some Chinese conditions (Rühlig, 2023). Therefore, the threat of algocracy relies not only on traditional northern countries; those from the South turned into giants are willing to exert their power as well.

Conclusions

Analyzing algocracy as a cybernetic system reveals two main risks in the Global South. First, regarding algorithmic tools in public functions from a general perspective, the programming biases in AI are a current challenge for democracy. This article supports the doubts regarding the neutrality promise of algorithms, mainly because of the lack of transparency on their use in public decisions. Many scholars and institutions have highlighted those questions, even asserting that power in the future will be determined by who controls algorithmic programming. Hence, even though AI reveals a myriad of opportunities for improving public management, its evaluation cannot be limited to an analysis based on efficiency and efficacy. The deep —and still open— debate should focus on its use legitimacy, the impact on citizens' rights, and the mandatory dialogue that its implementation must carry out with the democratic values of society.

Second, the asymmetry and specificity of contexts in which algocracy application is projected. So, in the case of the Global South, its development could create new conditions for a new dependency. The concentration of the fundamental systems for using AI systems —data, algorithms, and computational capacity— by a few developed countries and technology companies generates implications for the region. On the one hand, algorithmic systems may incorporate the biases and values of fundamental system providers. On the other hand, algorithms used in public functions can reduce sovereignty, manipulate domestic politics, and be used as a weapon by foreign suppliers. Taken together, these elements undermine political mechanisms in the Global South and allow developed countries to impose perspectives that, once dependency is generated, may be difficult to dispense with. Thus, whether these elements configure an emerging and dangerous technological neofeudalism could be asked as a future research agenda.

Also, we identified another research branch. China seems to use Western practices in relation to technology and algocracy. However, the Global South has evidenced distinct logics in those realms —for example, in Africa and Latin America. Hence, we suggest that a constructivist approach could clarify China's behavior: where it comes from and how it is represented. Paraphrasing Wendt's famous paper, it would be noteworthy to explore if (how) algocracy is what States make of it.

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