ALGORITHMIC POWER AND THE EPISTEMIC TRANSFORMATION OF INTERNATIONAL RELATIONS IN THE AGE OF GENERATIVE AI

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ABSTRACT

The rapid development of generative artificial intelligence is reshaping the process and way information is generated and spread in global politics, thus posing significant questions for international relations theory. Although traditional theories remain effective in the analysis of strategic competition, governance, and security, they are inadequate in dealing with the epistemic effects of knowledge generated through algorithmic means. In this article, the idea of algorithmic power is introduced as the ability to shape perceptions, knowledge, and political outcomes through the generation and mediation of information by algorithmic systems. Through the application of digital constructivism, Science and Technology Studies, and post-humanism, the paper presents a conceptual framework for the relationship between technological infrastructure, algorithmic mediation, and epistemic change to political and security effects. In this paper, it is argued that generative AI reconfigures the construction of visibility, credibility, and narratives in international relations, thus affecting information warfare and cognitive security. In addition, the paper presents the findings from an exploratory survey among students of international relations and political science, which reveals a growing awareness of deep fake technologies, informational uncertainty, and the possible theoretical implications of AI. In conclusion, it is argued that algorithmic systems are an emerging dimension of international influence alongside military and economic power, and algorithmic power is a vital concept for the analysis of global politics.

1. INTRODUCTION

Generative artificial intelligence (AI) has become a major technological breakthrough of the twenty-first century because it has experienced extremely fast development. The operation of Generative AI differs from all previous artificial intelligence systems because it produces human-like content, yet previous systems focused on processing data and making predictions (Bommasani et al.,2021; Bubeck et al.,2023). These systems allow users to produce synthetic data and synthetic media which include artificially made narratives and images and audiovisual content that can affect both informational and cognitive environments.

The landscape of international relations is constantly subject to the effects of technological transformations. The advent of the industrial revolution changed the balance of power and economics, and nuclear weapons changed the concept of deterrence. The most recent technological revolution in the field of international relations is the digital revolution, which changed the concept of diplomacy and communication (Keohane & Nye, 1998: 81-90). The emergence of generative AI marks a new chapter in this ongoing process. This is because it does not just mediate communication or computation but also influences knowledge and meaning.

In this respect, despite the rapidly growing literature on AI in international security, existing literature has been dominated by studies of military AI, autonomous weapons, and cyber capabilities (Horowitz, 2018; Scharre, 2018). By contrast, relatively little attention has been given to the epistemic and discursive implications of generative AI and their relevance to international relations theory. Most particularly, there has been a conceptual failure to articulate the relationship between algorithmic information and cognitive environments.

This is not just a problem of conceptualization but also of practical application in security studies. The ability of generative AI to produce synthetic information, manipulate political discourse, spread false information in foreign policy contexts, and utilize deepfakes to facilitate new forms of psychological warfare (Chesney & Citron, 2019:1773-1776; Rid, 2020:5-18) has significant implications for redefining the relationship between information and security in international relations theory. Most particularly, it has brought to the fore new concepts of cognitive security and epistemic stability.

The aim of this study is to examine the perception of emerging scholars and practitioners on these developments by conducting exploratory research among 50 undergraduates majoring in international relations and political science. The findings show that there is a high level of awareness and engagement with generative AI in scholarly research. More importantly, a substantial number of respondents believe that generative AI may have an impact on theories of international relations. The findings of this study show that the dominant theories may not be adequate to capture this change and that there is a need to develop a new theory to conceptualize this change.

The argument of the paper is that the proliferation of generative artificial intelligence is leading to a structural transformation in international relations by giving rise to a new form of influence in international relations: algorithmic power. Algorithmic power differs from hard and soft power in that it exercises influence almost exclusively through the creation and mediation of information that is algorithmically generated. The paper also shows that generative AI has already been incorporated into knowledge production processes and that this is a manifestation of an ongoing epistemic transformation. The argument of the paper is that this structural transformation in international relations has major implications for international security and that it is leading to the creation of new forms of information warfare, synthetic media-based influence operations, and psychological and cognitive conflict.

In response to this change, this article introduces the concept of algorithmic power and proposes a multilayer analytical framework that links technological infrastructure to epistemic, political, and security outcomes. The article's integration of theoretical analysis and exploratory empirical data contributes to interdisciplinary discussions in the interstices of technology, culture, and global politics.

The article is organized as follows: the next section introduces generative AI in relation to other technological transformations in international relations. The following sections discuss classical theories of power, propose the concept of algorithmic power, present the Algorithmic Power Model, and analyse empirical data from the student survey. The final sections discuss implications of algorithmic power for international security and theoretical and cultural consequences.

1.1. Contributions and Claim Hierarchy

This article offers a set of claims in an organized fashion regarding the relationship between generative artificial intelligence and international

relations, with special emphasis placed upon the dimensions of epistemic change, informational influence, and security dynamics. As the spread of generative AI is seen to create changes in various dimensions, including knowledge production, political communication, and strategic interaction, it is important to note the presence of various levels of analytical scope, as the subject is seen to intersect with various theories and domains of knowledge production. This creates the potential for scope drift or analytical ambiguity, which is avoided by clearly demarcating the scope of the claims being made in this study.

To maintain the clarity of the claims being made, the claims in this study are arranged in a hierarchical fashion, which allows for the demarcation of the central theory claims, analytical claims, and exploratory observations, with the appropriate support being provided for the claims made in the study.

1.1.1. Primary Claim

The present research contends that the advent and spread of generative artificial intelligence enables a transformative change in international relations by facilitating the emergence of a new type of influence, which this article terms 'algorithmic power.' Algorithmic power mainly manifests through production, mediation, and strategic employment of information generated through algorithms.

1.1.2. Secondary Claim.

The second claim of this article argues that significant implications exist for international security in relation to algorithmic power. The development of synthetic media, computer-generated narrative production, and personalized informational influence can be linked to information warfare and new cognitive and psychological conflicts. Such phenomena extend information and epistemic space as arenas of strategic competition and create new vulnerabilities related to misinformation, perception management, and discourse manipulation in international contexts.

1.1.3. Empirical Claim

The other empirical claim of this study is that generative artificial intelligence is being incorporated into epistemic practices within the field of international relations education. An exploratory survey of students who are enrolled in international relations courses revealed that most, if not all, of them are aware of, and academically utilize, generative artificial intelligence. A considerable number of these students also believe that generative artificial intelligence could affect international relations theory, knowledge, and global security.

It must, however, be emphasized that these findings are not intended to be generalized on a broader scale, but they do, to an extent, support the broader theoretical claim that algorithmic power is not only present in political communications and security, but also within epistemic practices.

1.2. Contributions to the Study

Building on these claims, the article makes three main contributions to literature:

1.2.1. Conceptual Contribution

The study conceptualizes and formalizes the concept of algorithmic power as an analytical concept within international relations theory, providing a framework to grasp how generative AI shapes informational and epistemic power.

1.2.2. Theoretical Contribution

The present article outlines the Algorithmic Power Model, which links technological infrastructure, mechanisms, domains of influence, and systemic outcomes. This model combines elements of realism, constructivism, and science and technology studies theory.

1.2.3. Empirical Contribution

The study offers exploratory empirical research based on a survey of international relations/political science students, providing initial findings on how generative AI is viewed and used in academic settings.

1.3. Scope and Limitations of Claims

To avoid scope drift, this article makes no claim that generative AI replaces traditional determinants of power, e.g., military power, economic power, or institutional power. Instead, this article suggests that algorithmic power represents an additional dimension of power, which increasingly intersects with traditional determinants of power.

In addition, this article's empirical part is exploratory and limited in its scope. Its results should be considered indicative rather than generalizable.

2. EXPLORATORY EMPIRICAL STUDY: STUDENT PERCEPTIONS OF GENERATIVE AI

2.1. Research Context and Sample

To gather some basic empirical information about

the perceptions of generative artificial intelligence from the perspective of the academic discipline of international relations, a survey study was carried out on the student population of the international relations program at a private foundation university located in the country of Türkiye. The goal of this empirical section of the research was not to gather statistically generalizable information but rather to explore new perceptions, awareness, and usage patterns related to the phenomenon of generative artificial intelligence and its possible implications for the theory of international relations.

The total number of participants for the study was 50 students. The participants' ages ranged from 18 to 24, which represents the average age for the student population of social science programs. The gender distribution of the participants was equal, meaning there were as many females as male participants. This was done to eliminate any possible gender bias in the study.

2.2. Data Collection and Survey Design

Data were collected using a structured questionnaire consisting of both multiple-choice and open-ended questions. The survey instrument was designed to capture several dimensions of student engagement with generative AI, including:

- awareness of artificial intelligence concepts
- familiarity with generative AI tools
- patterns of academic usage
- perceptions of reliability and ethical concerns
- views on the potential impact of generative AI on international relations theory
- perceptions of risks such as misinformation, synthetic media, and psychological or information warfare

The use of open-ended questions allowed the respondents to express their opinions on the issue using their own words, providing qualitative findings on the ways in which students conceptualize the relationship between artificial intelligence and international relations. The participation of the respondents was on a voluntary basis, and the questions were answered anonymously.

2.3. Purpose of the Empirical Component

The empirical aspect of this research has been deployed in an exploratory and corroborative manner. Instead of assessing a causal hypothesis, this survey aims to recognize new epistemic and perceptual trends among students who are actively engaged in international relations education. The way in which students perceive generative AI will help us understand how algorithmic systems might shape knowledge production, interpretation, and analysis in this field. As such, this research complements the conceptual discussion developed in this paper regarding the emergence of algorithmic power.

2.4. Findings

The survey results provide exploratory insights into how students in international relations and political science perceive generative artificial intelligence and its implications for knowledge, theory, and security.

Table 1: Selected Survey Findings on Student Perceptions of Generative AI (N=50).

Survey Item	Response Pattern	Percentage
Generative AI primarily associated with tools such as ChatGPT	Yes	82%
Concern about distinguishing real content from deepfake or synthetic media	Yes	76%
Belief that misinformation and manipulated media may affect international politics	Yes	78%
View that mainstream IR theories may be insufficient to explain AI-driven transformations	Yes	64%
Belief that generative AI may contribute to the emergence of new IR theoretical approaches	Yes	58%
Use of generative AI for academic purposes	Yes	72%

The results provide the following prominent findings about the conceptualizations of the respondents regarding the subject of generative artificial intelligence: Firstly, it is evident that the respondents primarily associate the subject of generative AI with the use of tools such as ChatGPT, indicating an understanding of the subject within the realm of academic practice.

Secondly, the results highlight the following prominent findings with regard to the subject of generative AI: Another prominent conceptualization with regard to the subject of generative AI is the overall epistemic uncertainty, as the results highlight

the fact that the majority of the respondents are concerned with regard to the overall difficulty of distinguishing between genuine and manipulated content, with regard to the use of deepfake videos.

In addition, the results also highlight the overall perceptions with regard to the subject of international relations theory, as the results indicate the fact that the respondents are of the opinion that the traditional theories with regard to international relations may not fully address the overall transformations with regard to the subject of technology, particularly with regard to the subject of AI.

Furthermore, the results also highlight the fact that the respondents, i.e., more than half of the respondents, are of the opinion that the subject of generative AI may give rise to the development of new theories with regard to the subject of international relations, which is significant with regard to the conceptual arguments presented in the current article, as it is evident that the subject of epistemic transformation is acknowledged by the respondents with regard to the subject of international relations theory.

2.5. *Discussion of Findings in Relation to Theory*

The findings of the exploratory survey provide valuable insights into the perception of generative artificial intelligence in the field of international relations and the connections between these perceptions and the general theoretical debates in the field. Although the empirical part of the current research is not comprehensive, the trends identified in the survey among the students provide initial evidence in support of the conceptual framework of algorithmic power.

One of the first findings is related to the perception of generative artificial intelligence as primarily being used as a practical tool, represented by the existence of tools like ChatGPT. This finding suggests that algorithmic systems are not perceived as distant technological infrastructures but as practical tools that play an active role in the accessibility, summarization, and interpretation of information in the world. Theoretically, this finding serves as evidence in support of the argument that technological systems play an increasingly active role in the production of knowledge and the infrastructure of epistemology (Jasanoff, 2004:13-25; Zuboff, 2019 : 8-15).

Another key finding is related to the perception of the problem of deepfake videos and the increasing difficulty of distinguishing between genuine and

fake content. This finding is related to the growing importance of epistemological uncertainty in international politics. The loss of trust in the information environment has been perceived as a problem in the context of propaganda and information warfare (Rid, 2020, pp. 5-18); however, the existence of generative artificial intelligence expands the scope and scale of such practices many times over. The existence of synthetic media has been identified as one of the primary challenges to the integrity of democracy (Chesney & Citron, 2019, pp. 1773-1776). These findings serve as evidence in support of the argument that algorithmic power is exercised through cognitive and informational processes, not through traditional coercive or institutional means.

The study reveals that a considerable proportion of the students question the capacity of the existing theories of international relations to account for the technological changes happening today. The theories of international relations, such as realism, liberalism, and constructivism, continue to present some level of analytical utility, but the emergence of the new phenomenon of algorithmic mediation brings new variables into the scene. Researchers increasingly emphasize the roles of the productive and discursive types of power in the formation of the political reality (Wodak, 2009, Barnett & Duvall, 2005: 45-48; Wendt, 1999 :1-12). This can become the starting point for the integration of the technological mediation phenomenon into the theories of international relations.

Perhaps the most important revelation for the theories of international relations from the study's findings is the fact that the students entertain the possibility of the emergence of new theories of international relations as a result of the emergence of generative artificial intelligence. The fact that the students entertain such a possibility does not necessarily mean it will come to fruition; however, it does mean that the possibility of epistemic change is on the minds of the new generation of practitioners and theorists. This corresponds to other arguments about the fact that the new technologies create new types of power relations, strategic contest, and global governance (Horowitz, 2018: 39-52; Singer & Brooking, 2018: 67-84).

The findings presented here support the theoretical argument of the study on the emergence of the new type of power, the algorithmic power, which occurs through the mediation of knowledge, perception, and information. The findings presented here do not aim to prove the revolution in the theories of international relations; rather, they

present the initial signs of the emergence of the new foundations for such a revolution.

3. LIMITS OF MAINSTREAM INTERNATIONAL RELATIONS THEORIES IN EXPLAINING GENERATIVE AI AND ALGORITHMIC POWER

In fact, technological changes have always challenged the existing theoretical paradigms of international relations. The emergence of generative artificial intelligence and the role of the informational environment, as facilitated through algorithms, raises pertinent questions about the explanatory capacity of the dominant theories. While realism, liberalism, and constructivism retain some relevance, they also face limitations in explaining the epistemic and informational aspects of technological changes.

It is worth noting that a general theory of international relations that can adequately account for all aspects of international politics has not been developed. Rather, different theories focus on different variables and levels of analysis (Singer, 2006, Waltz, 1979; Wendt, 1999). The objective of this section is not to dismiss existing theories but to examine their limitations from an analytical point of view in the context of generative artificial intelligence.

3.1 Realism and Its Variants

Realism and its variants, including classical realism, neorealism, structural realism, defensive realism, and offensive realism—offer powerful explanations of international politics based on power, security competition, and the anarchic structure of the international system (Morgenthau, 1954; ; Waltz, 1979; Mearsheimer, 2001). From a realist's point of view, artificial intelligence is largely thought of as a strategic capability. The competition between powerful states, especially the US and China, in developing artificial intelligence is consistent with realist assumptions about technology competition (Beyond the Horizon, 2025).

Realism is a theoretical framework that is particularly applicable to the militarization of artificial intelligence. The use of AI in military technologies, autonomous weapons, intelligence gathering and analysis, and cyberwarfare can be viewed as a continuation of existing dynamics of strategic rivalry (Burton, 2024: 64-65). However, there are some limitations to the realism framework in explaining the epistemic and information aspects of generative AI. Generally, realism theories tend to focus on power as a material force composed of military strength, economic capacity, and technological infrastructure. The aspect of knowledge and perception production and dissemination is relatively downplayed. Cognitive influence operations and algorithmically produced narratives and information are not entirely material phenomena.

Neorealism (Waltz, 1979) is closest to explaining systemic technological competition by its emphasis on constraints and capability distribution in the system. Nevertheless, even structural realism thinks of information in terms of a tool rather than as a separate sphere of power.

The failure of realism theories in providing adequate explanations can be briefly stated as:

3.1.1. The Ontological Gap: State-Centricity vs. Transnational Algorithms

International Relations (IR) realism, in its various forms, offers an approach grounded in the reality of power (Baldwin, 2016) and the sovereignty of the state in an anarchic world (Morgenthau,1954; Waltz, 1979). However, the rise of Generative AI (GenAI) has led to the emergence of a "liquid power", which is hard to reconcile with the traditional realist theories of power and the international system. In the context of realist theories, the sovereign state is the primary actor, operating in an anarchic system, with information being viewed as an instrument of statecraft, whether in the context of propaganda or intelligence, controlled by capital.

Failure: The problem, however, is the transnational and decentralized nature of GenAI, which is produced by private corporations (e.g., OpenAI, Google, Meta) and is used by billions of people around the world. As Nye (2021:10-14) argues in his discussion of the digital age, power is no longer held by the state, as discussed in his work, but is being diffused away from the state in the digital age.

3.1.2. Power Concept

Realism defines power through material capabilities: (Morgenthau, 1954, Mearsheimer, 2001).

Failure: GenAI information is non-material and non-rival. One AI-produced deepfake or a fabricated story can disrupt a financial market or swing an election without any physical military movements. The Realist theories that focus on the Balance of Power have challenges in quantifying "algorithmic power." Since GenAI is situated in the Infosphere (Floridi, 2014:1-18), it produces a reality that is socially constructed and not physically coercive. The concept of "Infosphere" means the restructuring of reality in the digital environment.

3.1.3. The Breakdown of the Rational Actor Model

Realism assumes that states are rational actors that make decisions based on objective information to ensure survival (Morgenthau, 1954).

Failure: The GenAI pollutes the information environment with hallucinations and synthetic information. The Realist framework of Rational Choice loses its validity if the information upon which the rational calculations of a state are based is distorted by Gen AI misinformation. As Buzan and

Hansen (2009: 187-214) note, in contemporary security thinking, security has been reconceptualized to include threats to knowledge that Realism is poorly equipped to theorize.

The table below offers a comparative evaluation of the shortcomings of various sub-theories of Realism in dealing with the challenges of Generative AI. The table reveals how each of these sub-schools of Realism, ranging from Classical Realism to Neoclassical Realism, is struggling to accommodate non-material forms of power within its traditional state-centric framework of analysis.

Table: 2 Comparative Failure of Realist Sub-Theories.

Theory	Key Proponent	Focus	Point of Failure (GenAI Challenge)
Classical Realism	Hans Morgenthau	**Human Nature:** The animus dominandi (lust for power) drives states.	It cannot account for **non-human agents**. GenAI produces influence and "hallucinated" facts without human ego or biological survival instincts.
Neorealism (Structural)	Kenneth Waltz	**System Structure:** The distribution of material capabilities in an anarchic system.	It treats states as "black boxes." GenAI's power lies in **internal societal disruption** and cognitive shifts, which neorealism ignores in favor of counting missiles and GDP.
Defensive Realism	Robert Jervis / Stephen Walt	**Security Dilemma:** States seek "enough" power to survive and maintain the status quo.	The **"Offense-Defense Balance"** becomes unmeasurable. It is impossible to tell if a state is using GenAI for defensive information security or offensive psychological warfare.
Offensive Realism	John Mearsheimer	**Power Maximization:** States seek regional hegemony to ensure absolute security.	It fails to explain why a state would lose "truth-monopoly" to a **non-state AI entity** (like a tech giant) that it cannot fully control or "conquer" like a territory.
Neoclassical Realism	Gideon Rose / Fareed Zakaria	**Domestic-Systemic Link:** How domestic variables translate systemic pressures into policy.	While better at looking inside the state, it still assumes **rational elite decision-making**, which is undermined by AI-driven polarization and the decay of objective reality.

3.2. Liberal and Neoliberal Theories of International Relations

Unlike Realism, Liberalism, and Neoliberalism, which focus on non-state actors, international institutions, and economic interdependence, respectively, these theories are more ontologically in line with the phenomenon of Generative Artificial Intelligence (GenAI). Nonetheless, these theories have major structural limitations in explaining the phenomenon of information produced by GenAI.

In the Liberal and Neoliberal approaches, international institutions play an important role in the mitigation of conflicts (Keohane, 1984:65-84; Keohane & Nye, 1998 :81-94). In the Liberal

approach, the phenomenon of generative AI poses critical issues of governance and regulation in the international community. Issues of AI ethics, digital governance, and international standards can be explored through the lens of the Liberal and Neoliberal approaches. Nonetheless, the Liberal approach has limitations in explaining the phenomenon of information produced by GenAI. The Liberal approach focuses on international institutions, but the phenomenon of algorithmic systems produces information in ways that may not necessarily follow the rules of international institutions. Disinformation campaigns, synthetic media, and decentralized digital systems often

bypass the rules of international institutions, which limit the explanatory power of the Liberal approach.

The differences between the fundamental concepts of liberal and neoliberal international relations theories and generative AI can be summarized as follows:

3.2.1. The Breakdown of the "Marketplace of Ideas"

Classical Liberalism (as exemplified by Locke, 1998 and Mill, 2001) is predicated on the idea of a "Marketplace of Ideas" that assumes that, in a free society, rational thought will ultimately lead to truth over falsehood.

Failure The problem occurs when Generative AI (Gen AI) enters the scene and floods the digital environment with an unbounded number of fabricated ideas and facts at zero cost. This creates a state of information asymmetry and cognitive overload. Keohane and Nye's (1998) later writings on the information age cautioned that when information became ubiquitous, the key to power lay in the editor's ability to discriminate. Liberalism does not have a solution for the marketplace when the majority of the communicators are not human.

3.2.2. The Institutional Inertia of Neoliberal Institutionalism

Neoliberalism focuses on how international institutions (UN, WTO, NATO) reduce transaction costs and solve collective action problems (Keohane, 1984).

Failure GenAI develops exponentially while international institutions evolve only bureaucratically. Thus, when drafting a treaty or norm (for instance, the EU AI Act, 2024), the underlying technology has moved on. Neoliberalism faces problems in clarifying how institutions might govern the borderless and invisible flow of information generated by AI that does not rely on state cooperation in the classical sense.

3.2.3. Democratic Peace Theory vs. Algorithmic Polarization

The theory of Democratic Peace Theory (DPT) states that democracies tend to be more peaceful because they are transparent, accountable to the citizenry, and share the same liberal values (Doyle, 1983 :213-225). However, the advent of Generative AI

and the use of algorithms for surveillance present a new complexity for the theory:

Failure: Generative AI-assisted misinformation serves as an internal solvent to undermine the cohesiveness of democratic states. Through the facilitation of micro-targeted propaganda, Generative AI allows both internal and external actors to balkanize democratic states from within. Liberal political theory, which assumes a rational and well-informed citizenry, is not designed to address a world in which the demos (the citizenry) cannot agree on facts due to the influence of AI-driven filter bubbles. To summarize as follows;

1. From Transparency to the Digital Panopticon: Democratic political theory (DPT) asserts that a culture of transparency fosters trust among states. However, the use of algorithms to conduct mass surveillance flips this paradigm on its head. The state can observe everything that citizens do, but the reverse is not true: citizens have no way of seeing the inner workings of the algorithm (the 'black box'). This creates a 'Digital Autocracy' that operates beneath the veneer of democracy (Feldstein, 2021:1-18).

2. The Death of Public Accountability: As a leader uses GenAI to distribute micro-targeted propaganda or to prevent dissent through predictive policing, the public is no longer an effective check on the prosecution of war. In keeping with Zuboff (2019:8-15), in Surveillance Capitalism—and, by extension, the surveillance state—behaviour is commodified, allowing elites to build, rather than earn, consent.

3. Algorithmic Polarization as an Internal Solvent: The use of GenAI to build echo chambers itself has been automated, which has led to Democratic Backsliding. As society loses its shared reality, the constraints that normally prevent conflict are diminished, making the ostensibly democratic nature of the state irrelevant to its foreign policy.

The following table illustrates the comparative failure of Liberal and Neoliberal sub-theories. It highlights a progression from the breakdown of individual rational debate to the systemic erosion of democratic stability through algorithmic surveillance;

Table 3: The Structural Failure of Liberal Frameworks in the Age of Generative AI.

Theory / Concept	Key Proponent	Core Assumption	Point of Failure (The GenAI Challenge)
Classical Liberalism	J.S. Mill	The "Marketplace of Ideas" ensures truth through rational debate.	**Information Flooding:** It produces artificial noise of such magnitude that human thinking is not discernible, thereby creating a milieu of confusion rather than clarity in the market.
Neoliberal Institutionalism	Robert Keohane	International institutions and regimes facilitate cooperation and trust.	**Institutional Lag & Deepfakes:** Artificial intelligence progresses much faster than the regulatory environment can adjust to such change. Perfect deepfakes remove the verifiable signals that institutions use to discourage cheating.
Commercial Liberalism	Richard Rosecrance	Economic interdependence and global trade make war obsolete.	**Digital Autarky:** States are using AI to develop "sovereign intranets" and disconnect from international networks in an attempt to prevent foreign algorithmic interference, thus favoring control over trade.
Democratic Peace Theory (DPT)	Michael Doyle	Democracies are peaceful due to transparency and public accountability.	**Digital Panopticon:** Generative AI enables comprehensive surveillance and manipulation. By undermining democratic processes from within, AI helps leaders evade public control, thus invalidating the DPT's peace mechanism.

3.3. Constructivism

Contrary to Realism and Liberalism, the Constructivism approach views the international system not merely in terms of material capabilities (such as military or economic power) or rational-legal terms, but in terms of social constructions, identities, norms, and ideas. The Constructivism approach is found to have more explanatory power than the other two approaches in the context of Generative Artificial Intelligence (GenAI) because the latter is more concerned with the process of constructing reality. The Constructivism approach is, however, confronted with the problem of explaining the construction of reality by a non-human agent.

Constructivism argues that "anarchy is what states make of it" ("Anarchy is what states make of it" (Wendt, 1992). The focus of the Constructivism approach is on the role of language and discourse in the formation of the international system. The emphasis of the Constructivism approach is on the role of norms, identity, and discourse in international politics (Wendt, 1999; Adler, 1997:319-324). Therefore, the Constructivism approach is highly relevant in terms of the methodological tools available for the study of the formation of narratives, perception, and meaning processes. The relevance of the Constructivism approach is more in the context of the proposition that the informational environment plays an important role in the shaping of political reality.

However, constructivism has traditionally focused on the human agent in the production of norms and meanings. The inclusion of algorithmic systems as participants in the production of discourse is the introduction of non-human agency, which is not fully theorized in traditional constructivist models of international relations. While constructivism can be adapted to include the mediation of technology, this requires further conceptual development. The relevant issues regarding generative AI and constructive IR theories include the following:

3.1.1. The Construction of "Digital Truth"

For Constructivists, power is the ability to define what is "normal" or "true." GenAI is the ultimate tool for this.

Strength: Unlike Realism, Constructivism provides us with an explanation of how deepfakes or synthetic narratives might change the identity of a state or its understanding of the 'threat.' If Generative AI can shape the 'collective meanings' that are shared among states, then it has the potential to change the

international system without resorting to armed conflict.

Failure: Traditional Constructivism is anthropocentric and presumes that meanings are constructed through human interactions. It faces problems in explaining how the world works when algorithms are creating new norms or 'post-truths' that are not necessarily of human design.

3.3.2. Norm Entrepreneurship by AI

A "norm entrepreneur" is an actor who pushes for new standards of behaviour (Finnemore & Sikkink,

1998: 895-898).

Insight: The role of Generative AI is that of a major and automated norm entrepreneur. It is capable of facilitating the rapid spread of new global norms, often of questionable or detrimental value, such as the normalization of surveillance and the loss of privacy, in ways that cannot be replicated through traditional human interaction. The following table outlines the manner in which the Constructivist theory addresses the challenge of Generative AI, from the shift in focus from the construction of society by humans to the creation of reality by algorithms.

Table 4: Failure and Strength of Constructivism in the AI Era.

Theory / Concept	Key Proponent	Core Assumption	Point of Failure / Challenge
Intersubjectivity	Alexander Wendt	Reality is created by shared understandings between actors.	**Algorithmic Reality:** When information is produced by AI, the basis of understanding is no longer human shared cognition, but rather black box algorithms.
Identity & Interests	Martha Finnemore	State interests are not fixed; they are shaped by social identities.	**Identity Hacking:** GenAI holds the ability to undermine national identities by overwhelming a culture with artificial history or divisive mythology, making identity a very volatile construction.
Logic of Appropriateness	James March	Actors do what is "socially right," not just what is "beneficial."	**Norm Erosion:** GenAI can accelerate the normalization of behavior considered deviant, such as disinformation, which can lead to a degradation of acceptable behavior in international relations.

4. CONCEPTUALIZING ALGORITHMIC POWER

Before the formulation of the definition of algorithmic power, it is necessary to analyse the explanatory potential of the current international

relations theories in the context of the phenomenon of generative artificial intelligence and algorithmic informational spaces. As can be seen in Table 5, classical theories possess high analytical potential but have certain limitations in explaining the epistemological and informational changes caused by generative AI.

Table 5: Explanatory Capacity of Mainstream IR Theories in the Context of Generative AI.

Dimension	Realism / Neorealism	Liberalism / Neoliberalism	Constructivism
Core Focus	Power, security, military capability	Institutions, cooperation, governance	Norms, identity, discourse
Ability to Explain AI as Strategic Competition	Strong	Moderate	Limited
Ability to Explain Militarization of AI	Strong	Limited	Limited
Ability to Explain Information Warfare and Synthetic Media	Partial	Partial	Moderate
Ability to Explain Epistemic Transformation	Weak	Weak	Moderate
Ability to Explain Algorithmic Mediation and Synthetic Knowledge Production	Weak	Weak	Limited
Overall Explanatory Scope for Generative AI	Partial	Partial	Partial

As shown in Table 5, no single international relations theory fully captures the multidimensional nature of generative artificial intelligence. Realism explains the technological rivalry and military applications of AI, liberalism explains the governance and institutional implications of AI, and constructivism explains the discourse and perception of AI. The problem is that generative AI is simultaneously present in the material, institutional, and epistemic worlds.

It is important to underscore the fact that international relations theory has never produced a comprehensive theory of international relations that can fully capture the complexities of international politics. Neorealism is arguably the international relations theory that comes closest to fully capturing the complexities of international politics, particularly in the area of great power politics, including the strategic rivalry between the United States and China in the development of artificial intelligence. From the perspective of realism, artificial intelligence can be seen as a strategic asset and increasingly as a military asset.

The problem is that the rise of generative AI and large-scale algorithmic systems introduces dynamics that go beyond the traditional material world of realism and the traditional notions of power in international relations. Generative AI is not merely enhancing military capabilities or economic productivity but is reconfiguring the informational world and the production of knowledge.

These developments suggest that, while useful, existing theoretical frameworks may require conceptual extension. Specifically, the advent of generative artificial intelligence underlines the requirement for a conceptual concept that can accommodate an influence which is exercised through information generation, epistemic mediation, and cognitive environments. This article offers the concept of algorithmic power to fill an analytical gap.

4.1. Defining Algorithmic Power: A Theoretical Synthesis

The limitations identified in the mainstream theories of international relations, as discussed previously, highlight the need for conceptual frameworks that can address issues of technological mediation, epistemic change, and non-human agency. In recent years, interdisciplinary research has increasingly explored the role of digital infrastructure and algorithmic systems in shaping social and political reality. Such research provides a foundational framework for conceptualizing algorithmic power.

One of the most notable developments in this area is the emergence of what can be referred to as digital constructivism. Digital constructivism extends the insights of constructivist theories of norms, discourse, and meaning to highlight the role of technological systems in shaping informational environments. For instance, algorithms have been shown to shape visibility and access to information (Bucher, 2018:33-48).

The research on digital securitization also illustrates the way in which technological phenomena and digital threats are integrated into security discourse and policy. Such research suggests that security is not simply constructed through political rhetoric and processes but also through digital infrastructure and algorithmic systems (Hansen & Nissenbaum, 2009:1156-1162).

At the same time, the development of Science and Technologies Studies and the post-human turn in general challenge the idea of human agency as exclusive to the human domain. Actor-Network Theory argues that political and social outcomes can be explained by the presence of actor-networks, which include non-human actors (Latour, 2005). In this sense, it is possible to conceive of algorithms, data systems, and generative AI systems as actors in the production of socio-technical networks that produce informational spaces and political perceptual processes.

Similarly, scholars working in the area of algorithmic governance and decision-making processes have emphasized the need to consider the role of algorithms as not merely objective tools but as systems that reflect embedded assumptions, values, and political logics (Amoore, 2020). In this sense, the outcomes of generative AI systems not only reflect the data they process but also reflect the assumptions embedded in the systems' design, thus calling into question the epistemological validity of the knowledge produced by these systems.

On the basis of these theories, the current article conceptualizes algorithmic power as the capacity to influence knowledge, perception, and political processes through the production, mediation, and dissemination of algorithmically produced information. Algorithmic power is primarily an epistemic and informational phenomenon, with secondary effects on political legitimacy, strategic behaviour, and security in international relations.

In comparison with traditional power, which is generally related to coercion, economic pressure, or institutional influence, algorithmic power is based upon the mediation of the informational

environment and knowledge production. This is what makes it particularly relevant in the context of generative AI, as the production of narratives, interpretations, and representations can be produced on a large scale and with high levels of realism.

Collectively, the views expressed in this section suggest that "algorithmic power" represents an emergent concept of power, which is situated at the crossroads of technology, epistemology, and global political communication. Such a conceptualization provides a foundation from which to analyse the ways in which "generative" artificial intelligence reshapes international relations outside of more traditional material or institutional understandings. As a further means of clarifying the analytical implications of this concept, the next section proposes a conceptual model of "algorithmic power" and its constituent parts, as well as its sphere of influence.

4.2. Algorithmic Power, Epistemic Transformation, and International Security

In order to operationalize the concept of algorithmic power and specify its constituent parts, the present study proposes the Algorithmic Power Model. The model identifies the major layers through which generative AI influences international relations, connecting the technological infrastructure with the epistemic, political, and security outcomes.

Algorithmic power is not an isolated factor but is constituted by the interplay of various interrelated layers. These layers can be conceived as a process in which the layers sequentially but simultaneously intersect with one another. The first layer is the technological infrastructure of algorithmic power, encompassing the foundation of algorithmic systems, such as large language models, data used in the training process, computational capabilities, and platforms. These layers establish the foundation upon which the capacity for generating, processing, and disseminating information is based. In this regard, control over data, computational capabilities, and platforms has become an increasingly relevant factor in international relations, particularly among the major powers and technology giants. The strategic rivalry between the United States and China in the development of AI technologies substantiates the argument that technological superiority in AI is increasingly perceived as an attribute of national power (Scharre, 2018: 215-232).

The second layer focuses on the ways in which algorithms manage and organize visibility, prioritize information, and control access to knowledge. Algorithmic filtering, ranking, and generative algorithms impact which information is visible and considered credible in digital environments. At this level, algorithmic systems begin to impact epistemic authority in terms of users' perceptions of political events, international crises, and global narratives.

The third layer refers to the epistemic implications of information mediation through algorithms. For example, generative AI systems create narratives, summaries, and interpretations of information, which can impact users' perceptions, beliefs, and understandings of politics. The proliferation of synthetic media, deepfake, and generative narrative production further contributes to epistemic uncertainty and challenges to truth in international politics.

Apart from that, algorithmic systems also mediate informational environments in terms of visibility and access to knowledge. Algorithmic systems shape what kind of narratives are being shared and what kind of perspectives are being legitimized within informational environments (Bucher, 2018: 33-48). In this regard, the narratives and interpretations generated by generative AI systems shape how political events, conflicts, and crises are being understood.

These developments have profound epistemic implications. The increasing prevalence of synthetic media, such as deepfakes and algorithmically generated political narratives and information, breeds further uncertainty regarding the nature of information being shared and disseminated (Chesney & Citron, 2019: 1773-1776).

The final layer consists of the political and strategic consequences of algorithmic influence. These include:

- information warfare and influence operations
- psychological and cognitive conflict
- manipulation of public opinion
- strategic communication and narrative competition

At this stage, algorithmic power intersects traditional forms of power, including military and diplomatic strategies.

These layers are also presented in a sequential manner but are meant to operate concurrently and mutually reinforce one another. Thus, technological infrastructure makes algorithmic mediation possible; mediation facilitates epistemic transformation; and epistemic transformation impacts political and security outcomes. This configuration allows algorithmic power to operate in both direct and indirect ways without any apparent coercion or institutional intervention.

The Algorithmic Power Model offers a framework

for understanding how generative AI transforms international relations in various areas. It emphasizes that power in international politics today transcends physical and institutional forms and increasingly entails informational and epistemic forms of power. This model also explains why existing theoretical frameworks only capture partial aspects of technological change and thereby reinforces the argument that algorithmic power represents an emerging form of analytical thinking in international relations.

In international security issues, algorithmic power facilitates the development of information warfare and psychological operations. While not new, information warfare is significantly amplified and personalized in scope and pace by the advent of generative AI. This allows actors to shape perceptions and political dispositions with unprecedented levels of accuracy (Rid, 2020 :5-18; Singer & Brooking, 2018: 67-84).

This process expands the scope of actors involved in international politics. In addition to states, technology companies and digital platforms, as well as transnational networks, increasingly play important roles in shaping the informational environment. This process of diffused influence challenges the traditional understanding of state-centric power and creates new types of strategic interdependence between public and private actors (Zuboff, 2019: 8-15).

The epistemic implications of algorithmic systems are also of great significance. The production of knowledge in international relations has traditionally been shaped by certain contextual conditions, such as the relevant institutions and geographical spaces in which they have been produced. The development of generative types of artificial intelligence by technology companies in certain political and cultural spaces creates critical concerns regarding the representation of knowledge (Amoore, 2020: 4-12).

Preliminary empirical findings from the exploratory survey carried out in this research offer some insight into the way students of international relations and political science perceive the transformations. The majority of respondents identified generative AI technologies mostly in association with ChatGPT and expressed their concerns regarding the difficulty of distinguishing authentic information from synthetic media. The respondents also expressed the idea that prevailing theories of international relations might not sufficiently account for the ongoing technological transformations and that generative AI technologies might contribute to the development of new theories.

The findings support the idea that epistemic transformation is already recognized within the discipline from the perspective of emerging scholars.

Collectively, these findings suggest that algorithmic power is a concept that spans technological, epistemic, and strategic aspects and, as such, connects technologies of data and computation to transformations in knowledge, perception, and political interactions. Algorithmic power differs from other types of power, such as military and economic power.

5. CONCLUSION

This article examines the implications of generative artificial intelligence in the context of international relations, arguing that the spread of algorithmic technologies is an expression of an emerging modality of influence, which is conceptualized as algorithmic power. Unlike traditional power, which is exercised primarily in relation to material capacities or institutional arrangements, algorithmic power is exercised in relation to the production, mediation, and dissemination of information, which shapes perception, knowledge, and political interpretation.

The analysis has demonstrated that mainstream international relations theories retain important explanatory value but encounter limitations in addressing the epistemic and informational transformations associated with generative AI. Realism is shown to provide important insights into the rivalry in the development of technology, the militarization of AI, and the context of great power rivalry. Liberalism is also seen to provide important insights into the governance and regulation of AI, while constructivism is seen to highlight the importance of discourse and perception in the context of AI. However, the complexity of the phenomenon of algorithmic power transcends the capacity of any single theory of international relations.

On the back of the insights provided by digital constructivism, Science and Technology Studies, and the post-human turn, this research proposes the concept of algorithmic power as a conceptual category that illuminates the significance of technological infrastructure in international politics. The Algorithmic Power Model that this research proposes offers a framework to examine the relationship between generative AI and epistemic transformation/strategic outcome with respect to technological capabilities.

An exploratory survey of students of international relations/political science offers preliminary

empirical evidence to support this research. The findings indicate that students of international relations/political science demonstrate considerable awareness of generative AI, significant concerns about synthetic media/information reliability, and an overwhelming consensus that AI has the potential to impact international security/theory in the field of international relations. Although limited in scope, this research offers preliminary evidence that epistemic transformation has begun to be recognized in academic circles.

This analysis gives rise to a number of implications. Firstly, technological infrastructures and information environments should be considered more salient dimensions of international power.

Secondly, the study of international relations might necessitate the development of new tools of analysis, which can account for mediation, epistemic power, and synthetic information. Thirdly, the development of generative artificial intelligence poses critical questions about bias, epistemology, and information geopolitics.

Future research may extend this work by examining the empirical manifestations of algorithmic power in specific geopolitical contexts, analysing state and corporate strategies in AI governance, and exploring the long-term implications of generative AI for diplomacy, conflict, and global governance.

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