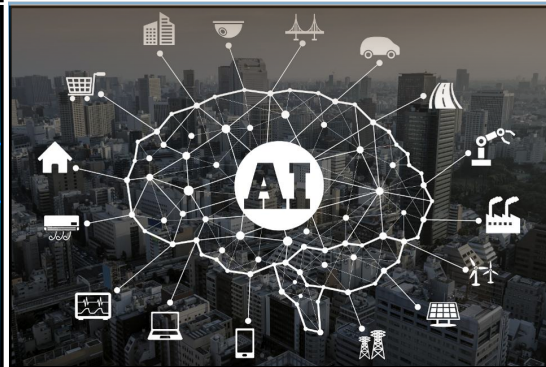
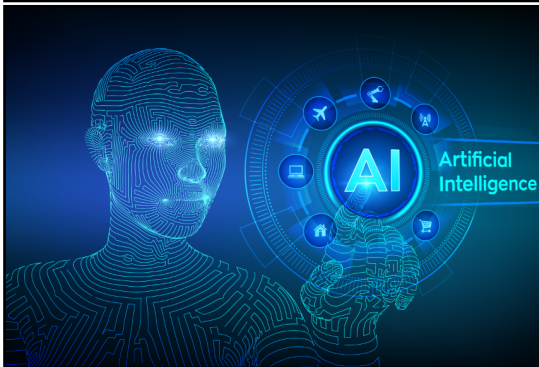




THE FUTURE IS HERE: The Emergence of Artificial Intelligence in Governance

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Preethi Amaresh

Abstract

Artificial Intelligence (AI) has been defined as ‘a sophisticated application of technology whereby a machine demonstrates human cognitive functions such as learning, analysis and problem solving, and a collection of advanced technologies that allows machines to sense, comprehend, act and learn’. Broadly speaking, there are five major actors in and stakeholders of the process of AI in governance, which are National/State Governments, Multi-national private technology companies, formal Intergovernmental Organizations (FIGOs) like the ITU and the UN, Civil Society Organizations and a Common Public. A report by the International Telecommunications Union (ITU) states that a detailed and governance framework for AI seems unrealistic due to certain structural challenges. There are also ethical concerns surrounding AI in governance. While AI has enormous potential to positively affect development goals, it must be regulated well, reforms are needed for AI governance. Also, many nations are coming up with National Regulatory frameworks in the last few years like in the US, China, India, European Union and UK. AI in governance has been a trending issue globally in the recent times specially in India. However, there is a need to construct a proper AI framework by countries that can help in the area of governance.

Introduction

Artificial Intelligence (AI) has been defined as a modern form of technology whereby a machine illustrates human cognitive capacities like knowledge, analysis and problem solving, and a set of modern technologies that enable machines to sense, discern, perform and read. Changes in AI can be broadly broken down into three broad categories such as machine Learning (ML), Robotic Process Automation (RPA) and Natural Language Processing (NLP).

As AI is quickly picking up the momentum every day to leave its footprints on the human lives more than the past, efforts from researchers, governments, academicians, specialists, data analysts and numerous stakeholders can be discerned surfacing and supplementing portion by portion to drive through this influx of artificially fabricated intelligence. The AI is scarcely 60 years old, however, its evolution has driven to such forms that profoundly influence our experiences and lives. It converges on replicating and transforming human intelligence through artificial technologies to invent intelligent machines. Some researches argue that AI has the capability of thinking and acting rationally, while others don't have the same view regarding its ability: to behave and think like humans. AI has its grounds in the long-established domains such as mathematics, computer science, philosophy, sciences, linguistics and psychology.

AI-based applications can decrease backlogs, cut costs, subdue resource constraints, free workers from mundane tasks, improve the accuracy of projections, inject intelligence into scores of processes and systems, and handle many other tasks humans can't easily do on our own, such as sifting through millions of documents in real-time for the most relevant content. Cognitive technologies could eventually transform every phase of government operations ranging from virtual desktop assistants to applications that can administer huge, double-clutch systems. Certainly, they are already having a great bearing on government craft, with more moving outcomes set to come. For decades, AI researchers have attempted to facilitate computers to perform a broad range of duties once thought to be reserved for humans. In recent years, technology has moved from science fiction into real life: AI programmes can play games, identify faces and speech, learn, and make informed decisions.

As striking as AI programmes may be, the cognitive technologies behind AI are now having a real influence on several people's lives and work. AI-based technologies computer vision, cover machine learning, speech identification, natural language processing, and robotics which are robust, scalable and progressing at an exponential pace. Developers are striving on achieving AI answers in everything from self-driving cars to swarms of drones, from smart robots to stunningly accurate speech translation. AI shows governments with different preferences about how to get work accomplished, with some work wholly automatic, some apportioned among people and machines, and some executed by people merely heightened by machines.

In a write-up titled, "the Windfall Clause" by Jade Leung (University of Oxford) calls AI a 'General Purpose' technology that signifies its ability to transform every single sector of the economy. This is linked with the centrality of data to the functioning of AI, as without massive datasets, AI is rendered functionless. Hence, to learn AI, one has to understand the Big Data revolution that is empowering it. Data collection and processing prevails at the core of the AI revolution, and as costs to store and process data slump, we will proceed to see an increase in its acceptance around the world. As the Berkman Klein Centre at the Harvard University perceives, the AI-based systems have an increasing presence in our daily life from sections like news and media, platform technologies and even Manufacturing.

According to World Economic Forum (WEF) "Shaping the Future of Technology Governance", drawing collectively stakeholders from private and public subsets to maximize the advantages of AI policy structures and alleviate the uncertainty associated therewith. To cite an instance, chat bots considerably being used in the health sector, act as virtual assistants to physicians, answer FAQs, schedule appointments etc. for offering superior healthcare services. Nevertheless, at the same time, they pose obstacles like a miscommunication between chat bots and customers, the poor diagnosis being fatal or poor

guidance. The possibility that prevails here is the global enactment of such a system once it becomes strong in its performance which will exponentially augment the terms of health and related services. The United Nations University Centre for Policy Research (UNU-CPR) suggests innovative solutions in the field of future public policy challenges. Through its platform, it brings collectively multifaceted viewpoints such as humanitarian, scientific etc., associated with AI in cooperation and strengthen knowledge sharing and debate to achieve the best possible upshot.

The way the public sector generates value such as the work, the people working, and the place of work is transforming. The government cannot address today's perplexing hurdles with outmoded systems. Tim O'Reilly, discussed the need for evolution of the technology and said : "We can't just accept whatever results we get from following old rules; we must constantly measure our actions against their results. And when we see that the results don't measure up to our dreams, we must rewrite the rules." As Alemanyand Gulumurthy (2019) pointed out the ways in which Multi National Companies (MNC's) utilized Big Data and AI in the following ways:

- A. To input in their own production and innovation processes
- B. To personalize and target marketing
- C. To sell for use by any third-party user, such as other corporations, politicians, advertisers, etc.

In this context, AI is not just one thing as it likewise influences governance establishments and public administration. Concurrently, change in the domain is molded by the regulations and governance standards it is subjected to. While historically, the Public Sector has trudged behind the Private Sector in phases of investment in Information Technology (IT), governments are apprehending that AI innovations could render them vital gains in industrial output and geopolitics. This school of thought further rises from the perception among policymakers and the public about the possible comedowns of AI evolution in

terms how it might imperil global peace and security, the prospect of work, media consumption and polarization, among other sectors of interest. Hence, the potential for AI statute has been strong in recent years.

Stakeholders in AI Governance

There is a diversity of stakeholders in the governance of AI. While the general misconception is of the centrality of National Governments, this couldn't be further from the truth. One of the concerns in the progress and deployment of AI is that it will transform tech multinational organizations into vitally crucial strategic player, while obstructing the functioning of multi-lateral global governance systems. Broadly articulating, the following are the five major actors in and stakeholders of the process of AI governance.

1. National/State Governments
2. Multi-national private technology companies
3. Formal Inter-Governmental Organizations (FIGOs) like the ITU and the UN
4. Civil Society Organizations
5. Common Public

Hence, a multi-stakeholder procedure is optimum for addressing the difficulties and matters of regulating this issue domain. It must likewise be seen that ownership over innovation and advancement of AI is currently restricted to a few large companies in the US and China, whereby omitting a large set of nations across the world. These multi-national private actors often perform with exceptionally low levels of transparency and as Dignam (2020) puts it, through an autocratic ownership structure. But considering the possibly disruptive reality of AI for global and national governance establishments, there is an importunate requirement for more compressed inspection by governance firms.

Challenges of Regulating AI

A report by the International Telecommunications Union (ITU) states that a detailed and governance framework for AI seems unrealistic due to certain structural challenges namely:

1. *Increasing Information Asymmetry*: information about the development of AI is increasingly restricted to a handful of technology companies, this means regulating them is challenging.
2. *Inadequacy of Unilateral Public Sector Action*: Without the consent and cooperation of the private sector, the public sector will be unable to act. Again, as technology ownership is firmly in the hands of the private sector
3. *Exacerbating the Digital Divide*: Substantial investment in infrastructure for AI is increasing the digital divide between the countries that have this technology and those that do not.
4. *Creating and Maintaining a Competitive Environment*: The presence of large companies with a treasure trove of public data renders competition meaningless, as these companies will always have an advantage over the competition.

Since AI is a ‘general purpose’ technology, each sector has its own sets of challenges. For instance, in the legal justice system, AI is increasingly being deployed along with surveillant assemblages to identify suspects by running their photos through databases. Private companies on whom there exists little information provide these products.

1. Platform Companies

The real challenge for regulating Artificial Intelligence comes from the Platform Companies platforms which are evolving organizations or meta-organizations that:

1. Federate and coordinate constitutive agents who can innovate and compete;
2. Create value by generating and harnessing economies of scope in supply or/ and in demand side of the markets;
3. Entail a modular technological architecture composed of a core and a periphery.

The leading companies that are referred to are, Facebook, Google and Amazon. Platforms are simultaneously intermediaries, two-sided markets, data

aggregators and leading users of AI. Further, their large size and control over data gives them enormous leverage in negotiations and framing the rules for regulation.

Thus, the use of AI in reorganizing supply chains and in targeted marketing by Platform companies has pushed them to innovate quickly in this domain. For instance, Amazon has recently begun applying AI and machine learning to all its activities and the data it collects. Prominently to its store recommendations and in stocking its warehouses, what Kenney and Zysman (2019) have termed the “geography of fulfillment”. The congregation of platform companies in the San Francisco Bay Area and Seattle have given them bargaining and negotiating power with policymakers and enormous control over proprietary technology powering development of AI.

2. Pace of Change

As stated before, the pace of development of AI is quite rapid and is affecting different sectors of the economy. While in previous industrial revolutions, the focus of technological disruption has been on manufacturing, AI is altering the service economy too. As Engelke (2020) points out, “AI’s increasing range of applications are having real-world consequences, both positive and negative.” However, the sheer rapidity of development in this field is making legislation redundant before it is passed. Further, the global AI arms race in the development and deployment of AI technology is pushing the technology ahead much quicker than anticipated.

3. Public Trust Deficit

Despite repeated assurances to the contrary, the general public tend to view AI with a sense of suspicion. This is largely informed by popular culture and media narrative about the nature of the technology. While this is an understandable fear, as nearly 47 percent of human jobs are at risk of being automated by 2030. As, a report by Kuppinger Cole points out, the portrayal of AI in science fiction is far from the realities of the technology today. Dignam (2020) classifies the technology into Strong AI and Weak AI. According to him, Weak or Narrow AI is a reality, but it only attempts to replicate a narrow set of human intelligence. Strong AI is a ‘science fiction goal’ but not based in reality. The broader public perception and debate around AI as an apocalyptic force continues to stymie

any progress on legislation. The fact of the matter is that AI is increasingly a part of our lives and regardless of its strength it needs to be regulated after public debate and feedback.

Ethical Concerns Surrounding AI in Governance

The need for regulation and governance reform extends beyond the public trust deficit where there are serious ethical and moral concerns over the deployment of Artificial Intelligence. The use of artificial intelligence and machine learning in particular has been proliferating in the public sector. Law enforcement agencies and departments are aggressively deploying AI through surveillance and databases in urban spaces to clamp down on crime. The technology is also being deployed in the legal services sector and the judicial process, further underscoring the biases of data.

1. Discrimination Bias

One major example of the deployment of AI in the judicial process is in Pre-Trial Risk Assessment (PTRA). Risk assessments define public safety risk by the probability of rearrests, which is often overly broad and conflates acts of violence with getting arrested for anything at all. Another area of deployment is in legal research and contract reviews. While the latter is an area that might arguably enhance the efficiency of the judicial process, the former is fraught with problems. PTRA provides judges and attorneys with a score that estimates the flight risk of an individual. PTRA here bases the probability that an individual facing trial might flee, entirely on the possibility of re-arrests. This is problematic for two reasons:

1. Risk assessments sacrifice accuracy and provide significantly more false positives than true positives.
2. Minorities are also likely to be disproportionately profiled for violent crimes and sentenced to harsher sentences. Thereby, PTRA targets minorities more aggressively. This poses a significant challenge, as historically, minorities are more likely to be arrested, with more severe charges.

2. Risk to Democracy and Human Rights

It has been noted before that AI tends to disrupt the international multi-lateral structure of governance. The proponents of AI argue that it has the capability to allow humans to become free of engaging in menial and often dangerous tasks. However as the “Spotlight on Sustainable Development Report (2019)” states, there are a few concerns over the risks AI poses to Democracy and Human Rights. The three important ones are:

1. Algorithmically targeted political marketing campaigns.
2. Data generated by citizens being used to survey or oppress them.
3. Proliferation of extreme speech that encourages discord and violence.

It is important to understand how this emerging technology is altering domains of governance, freedom of expression, societal tolerance and electoral politics. It has become surprisingly easy to mobilize and really large mobs of people to attain particular political/social goals and sow seeds of discord.

Reforms needed for AI in Governance

While AI has enormous potential to positively affect development goals, it must be regulated well. For instance, leaving platform companies to self-regulate will not work anymore. Emphasis of governance reforms must be on the development of ethical AI technology. While many solutions abound, such as the European Union proposal to provide legal personhood to Artificial Intelligence to increase accountability, they need to be introduced with more speed and tenacity. Arguably, the first step to ensure ethical AI is to control the governance of data.

1. Data Governance and Protection laws

Considering the centrality of Big Data to the development of AI, it is essential data be regulated. Data regulation must also attempt to address the multi-purpose nature of data and recognize the inherent importance of data in

relation to personal identity in the 21st Century. Data Governance regimes must aim to address the following areas:

1. Privacy and Security
2. Liability
3. Accountability and Oversight
4. Transparency
5. Bias and Discrimination

While there aren't any 'one-size-fits-all' solutions for regulating AI, it is important that each sub-sector is regulated separately and independently. It is important to take on board Platform Companies that are increasingly housing large amounts of data from a significant section of the population. As some studies argue, it is also important to strengthen Anti-Trust Laws in countries around the world to end the monopolistic data practices of platform companies. While some have argued that consent frameworks for data regulation are ineffective, others have praised the EU's General Data Protection Regulation (GDPR) for ushering in a new standard for data governance. The GDPR does so by significantly restricting a company's ability to collect data on an individual and adding a consent framework. Thereby, limiting the ability of a company to collect and monetize user data. While this move is considered controversial in many countries where the model of Internet governance is libertarian (like the US and the UK), the GDPR has wide acceptance within Europe.

2. Encouraging Innovation

The main criticism of any regulation surrounding emerging technologies is that it stifles innovation. However, this barrier can be overcome by increasing investment into public sector R&D. A study by the Atlantic Council found that the countries with significant public investment in R&D also tended to be the world's leading innovators. This can take a variety of forms:

1. Direct funding for AI R&D, through universities or national labs
2. Investment in Start-ups (seed funding and scaling)

3. Expanding AI education through vocational workforce development programmes
4. Encouraging cross-country transfer of expertise through immigration
5. Protection of Intellectual Property rights.

There must be a fine balance between encouraging innovation and ensuring a fair and ethical process of AI development. Further, a comprehensive cyber security policy that attempts to foster a culture of privacy and safety online might also help. There are steps being undertaken in this direction, for instance, France has made it illegal to collect data on an individual's gender, ethnicity or religion.

3. Ensuring a Dynamic and Flexible Policy Framework

It is also important is to ensure that policymaking keeps up with emerging technologies in the field. As the use of AI expands to different domains, so must the regulation, too. While governments have been historically wary of emerging technologies, it is important that action is undertaken now to prevent negative consequences. For this end, involving the multiple stakeholders into the process is important. The private sector and civil society organizations have the space to be a lot more innovative and dynamic in the development and regulation of AI. While policymakers and regulators need not become technical experts in AI, but it is important to work with experts to reduce information asymmetries and build domestic capacities.

Academia is also playing a significant role in this process, with the Harvard University Berkman - Klein Center, the University of Oxford's Future of Humanity Institute and MIT's Media Center at the forefront of research into the socio-political and economic impact of the development and deployment of AI. The diversity of their research allows for framing policy with dynamism, and they must be considered as stakeholders in policymaking.

National Imperatives

What experts fear is that national imperatives and great power politics might derail any progress that could be made on the regulation front, with countries recklessly deploying AI with little regard for its long-term costs. There might also be, within developing countries, a disproportionate focus on the advantages AI could offer in (military deployment, expanding manufacturing, etc.) and ignore the perils of the technology. While a lot of countries are coming up with National Regulatory frameworks, here's a look at a select few of countries for AI development.

United States of America

Development and Deployment of AI in the US is largely in the realm of private sector enterprises. This isn't surprising as most large platform companies are from the US, protected largely from litigation by Section 230 of the Communications Decency Act of 1996. This is in part facilitated by the libertarian streak of AI and Internet governance policy in the country. Where the emphasis is on deregulation and self-regulation. While individual states such as California have passed the California Consumer Privacy Act (CCPA) that emphasizes Data Protection and Privacy (akin to the GDPR), there exists no Pan- American legislation to govern data or AI. The Federal Structure of Governance in the US has often meant that states are the laboratories of AI regulation and development. For instance, AI- driven algorithmic changes to the state of Idaho's Medicaid resulted in 4000 disabled people losing necessary healthcare benefits. The companies are often at the Centre of the debate in the context of the US. Expansive studies like Dignam (2020) have documented the lack of diversity within the campuses of Google, Microsoft, Amazon and Facebook. This, coupled with the biased datasets previously mentioned in this brief, results in biased and discriminatory practices. For example, a study on Google Searches found that searches on African American names resulted in detention reports while the same wasn't the case for White American names searched. This implies a pressing need for federal regulation on not just data privacy but also a National framework for cybersecurity and AI governance. The White House in 2018 published a National Cyber Strategy which stated, 'The United States Government will examine the use of emerging technologies, such as artificial intelligence and quantum computing, while addressing risks

inherent in their use and application. However, this document provides only a vague insight into the governance prerogatives of the US government.

China

Dignam (2020) argues that China's development of AI is primarily driven by its understanding that AI can be leveraged to exert more social control on its population. While China previously resisted access to advanced technologies like AI, their ability to leverage AI for authoritarian tendencies overshadowed this fear. China, in many ways is driven by the same great power politics that drive's American development of AI. The primary difference is the dominance of state-owned corporations in China. In the absence of any active civil society movements, the Chinese people are also subjected to predictive policing strategies, utilizing facial recognition and PTRAs algorithms. There is also an emerging start-up culture in the country focused primarily on advanced technologies like AI. Machine learning along with surveillant assemblages are leveraged to track and monitor citizens who are considered 'high-risk individuals. The data collection regime, while strong on paper, is quite lax in enforcement and allows for the state's complete monopoly over user data. The Chinese state also collects data at breakneck speeds, with a network of 170 million surveillance CCTV cameras across the country. The Chinese state understands the importance of emerging technologies like AI. In a report published by the State Council of China, they call AI a strategic technology that will lead in the future aims to expand their AI programme through leaps and bounds by 2030. They also see the development of AI as a 21st century arms race, the winner of which would have significant leverage over geopolitics. The Chinese state also aims to leverage its 'first-mover' advantage in AI development for not just geo- strategic purposes but also for economic development. Western governments also see China's relative lack of interest in moderating the use of data by the state and private sector is giving it a competitive advantage

European Union

While the European Union is a large and diverse entity, it is helpful to look at the investment in AI across Europe. This is because, as French President Emmanuel Macron pointed out, '[France] would be unable to match [the US and China's] investments in AI research, besides, the European Union is

increasingly playing the role of the normative standard bearer of advanced technology regulation. Take for instance, the EU GDPR, which is the flag bearer of data regulation across the world and is being replicated across the global north. It should also be noted that the Europeans are at the frontlines of predictive policing and integrating AI into border control as well. For example, the Danish police are working closely with the private sector to integrate artificial intelligence driven social media surveillance of ‘problem individuals. In many ways, the investment into FRONTEX, the pan-EU border control agency, reflects the desire of the Europeans to engage in data sharing and cross-national development of advanced technologies for border patrol. However, this doesn’t take away from Europe’s role as the normative arbiter of AI technology. In April of 2019, the EU released a, ‘Ethics Guidelines for Trustworthy Artificial Intelligence’ this document underpinned the inculcation of ‘European Values’ into AI development. These included:

1. Be subject to human oversight
2. Be technically safe and robust
3. Ensure Privacy
4. Be transparent (and consent driven)
5. Enable diversity and non-discrimination
6. Work in service of societal well-being
7. Be accountable

An ITU report also points out the attempts of the EU in ensuring the retention of talent for AI development by leveraging academic expertise. It is safe to assume that the EU will continue to provide the third pillar of AI development in an increasingly bipolar geopolitical world.

United Kingdom

While pre-Brexit (2016), British policy would’ve been congruent with European policy on AI development, things have now changed. Following the lead of the US, the UK has also been aggressively deregulating its technology sector and AI development in particular. The clearest understanding of government policy on

AI development has been through the 2017 House of Lords Select Committee on Artificial Intelligence report. Here are a few key takeaways from that report:

1. The onus of development has been firmly bestowed on the private sector and start-ups in particular
2. Academia is meant to play a central role in R&D as well as for talent training and retention
3. Data collection has been identified as a pivotal pillar of AI development and government agencies like the National Health Services (NHS) are considered potential databanks.
4. The UK cannot compete directly with the US or China in terms of investment or scale but can choose to specialize in certain areas of development of AI to give itself a niche.

India

In 2018, the Indian government established the 'National Programme on Artificial Intelligence' (NPAI) under the auspices of a government-operated think-tank called NITI Aayog. The agency has undertaken a three-pronged approach to AI development:

1. Undertaking exploratory proof-of-concept AI projects in various areas
2. Crafting a national strategy for building a vibrant AI ecosystem in India
3. Collaborating with various experts and stakeholders

The report also highlights the areas of the economy where AI could be integrated. These include, Healthcare, Agriculture, Education, Urban mobility and smart cities. The report also points out the barriers to entry for the development of AI in India. However, a report by the Centre for Internet Studies based in New Delhi highlights the lack of both technological and regulatory capacities to realize the vision highlighted in the NPAI report. This report also points out that all conversations that are currently being undertaken in India about AI development have already happened in the US, China and the UK. Therefore, it would behave the country to take lessons from the

development and deployment of AI in these countries. Another flaw in the NITI Aayog report is that it privileges a technocratic approach over a regulatory approach. Take for instance the relatively brief section on Ethics and Governance, which fails to mention the integration of AI on the local and state levels. While both a technocratic and regulatory approaches are important, the focus should also be equally divided between the two areas.

Since civil society is still in its nascent stages in India, there has been little focus on the use of AI for predictive policing and surveillance in metropolitan centres. For instance, N. Ramachandran, President of the Indian Police Foundation emphasized on the significance of evidence-based predictive policing strategies while the Special Commissioner of Delhi Police spoke about the need to integrate CCTV footage with social media applications and data collected in the control room. This clearly highlights a technocratic approach as opposed to an ethical or human rights driven regulatory approach.

While the Indian state still has a long way to go in terms of both development and deployment of AI, the current trend towards leveraging data without oversight or clear guidelines for policing and surveillance purposes is a dangerous trend for civil liberties.

To conclude, AI on whole has the potential to have a large influence on the way citizens experience and communicate with their government. Though AI is not an explication to government predicaments, it is one persuasive medium to enhance government performance. Implementation of and adoption of AI in citizen assistance may likewise become a pointer of how the public division can have an anchorage on other surfacing digital tools. Yet, AI raises issues around privacy, the speeding movement and choosing of digital means, and whether people can keep pace with the force of automation through time. As Stephen Hawking, a theoretical physicist pointed out that AI is likely to be either the best or the worst thing to humanity, nation-states must set necessary, ethical guidelines keeping with the risk of AI as it gradually continues to fuse into the area of governance in the coming years.

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