A(rtificial) I(mages): The American Approach to Artificial Intelligence and its Intersection with a "Rising China"

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Despite the vast literature that explores the Western representations of China, there is little focus on how these representations actually influence US political action. Moreover, there is also very little academic discourse that explores the United States approach to artificial intelligence (AI), due to the recency of its developments. Accordingly, this dissertation aims to investigate how news discourse relating to China's AI ambitions enables and justifies the US approach to AI. By employing a social constructivist framework and conducting a discourse analysis of 29 purposively sampled articles from The New York Times, this dissertation finds five key constructions of China emerge, which together enable and justify the US approach to AI; China's AI ambitions as (1) dystopian, (2) based upon the theft of Western countries (China the "cheat"), (3) a "threat" to the US-led global order, (4) part of an "AI race", (5) and "winning" in the aforementioned "race". The dissertation shows how the discursive construction of China's AI ambitions are inextricable from the US approach to AI. It is the aim of this work that these conclusions will add a nuanced interpretation of events to the growing body of research that focuses on representations of China and their influence on US political action. The findings contribute to an understanding of how the US approach to AI intersects with a "rising" China and uncovers how news discourse relating to China's AI ambitions is underpinned by, and ultimately reaffirms, the "China threat" discourse.

Introduction

On May 25th 2017, Google's AlphaGo beat Ke Jie, the world's best player at the Chinese game of Go (Hern 2017; Lee 2018). AlphaGo is an AI application created by Google subsidiary, Deep Mind. The complexity of Go, with an infinite number of moves the player can make and long cited as requiring "human intuition," subsequently meant that the triumph signalled the mounting capabilities of AI (Lee 2018). The success of AlphaGo represented decades of ambition, innovation, and persistence from an entire research community, with one unifying goal: to create intelligent machines. Two months following the victory taken by the US, the State Council of China announced its NGAIDP. This plan explicated China's ambition to build first-mover advantage in order to become, by 2030, the "major artificial intelligence innovation center of the world… and lay an important foundation for China's entry into the forefront of the innovative countries and economic power" (State Council Department 2017).

Using a social constructivist approach and building on contributions to the literature which have studied the role of news discourse in justifying political action (Turner 2014; Ooi & D'Arcangelis 2018), this dissertation addresses a gap within the literature: the ideational of China's AI ambitions, which can be considered inex-

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tricable from the US approach to AI. As this dissertation will illustrate, the discursive construction of China's ambitions for AI both reaffirms the "China Threat" discourse which has then supported the US approach to AI, and correspondingly constructs a new paradigm for AI, where AI is considered intrinsically linked to global power politics. To understand the how the ideational forces of China's AI ambitions are inextricable from the US's approach to AI, the dissertation carries out a news media DA. Hall (2018) defines discourse as a way of representing something, which produces the knowledge that forms the architecture of opinion and action. The dissertation seeks to answer the following question: *How does news discourse relating to China's AI ambitions enable and justify the US approach to AI?*

China's AI ambitions are understood as the aim to lessen the country's vulnerability of dependence on Western technologies and to build an AI industry which will secure future economic growth and strengthen national security, as articulated in the NGAIDP (State Council Department 2017). By "enable and justify," the dissertation intends to explicate how the relevant news discourse is inextricable from the US approach to AI. This phrasing is taken from Turner's (2014) American Images of China, where Turner uncovers how American images of China enable and justify US China Policy. This dissertation does not seek to show a causal relationship between the news discourse and US official action. Building on Turner (2014), the dissertation aims to show that the "power of imagery lies primarily in its ability to circulate and become truth so that certain courses of policy are enabled whether its intended purpose was to facilitate action or not" (Turner 2014, 7).

The dissertation will argue that a discursive construction of China's AI ambitions emerges from the studied articles and this construction is inextricable from the US approach to AI. The studied news articles (hereafter, articles) are found to be underpinned by existing "rising China" discourse, which the emerging AI news discourse is then built upon. The intersection of "rising" China and AI signals the development of a new paradigm, emerging in parallel to a lively discussion surrounding the future of global order (Hurrell 2006; Ikenberry 2011; Acharya 2014; Duncombe & Dunne 2018), where AI is conceived as intrinsically linked to global power politics.

The first section sets out the core concepts of the dissertation: China's AI ambitions and the US approach to AI. Section two reviews the existing literature on both AI and a "rising" China. This reveals several gaps in the literature. First, AI has not been explored in relation to its ideational forces. Second, a consideration for the impact of "rising China" discourse on the emerging discursive construction of AI has not yet been addressed anywhere within the academic literature. Finally, the US approach to AI is yet to be analysed from any theoretical perspective. The recency of much of what the discussion is based upon is an explanation for these literature gaps. This, therefore, provides a unique opportunity for this dissertation to make a timely contribution to the emerging discourse. Section two also provides the conceptual framework, which this dissertation grounds itself in.

Section three will then establish the dissertation's methodology and its limitations before sections four and five present the findings of the DA. The findings reveal five principal themes which emerge, both enabling and justifying the US approach to AI; China's AI ambitions as (1) dystopian, (2) based upon the theft of Western countries (China the "cheat"), (3) a "threat" to the US-led global order, (4) part of an "AI race," (5) and "winning" in the aforementioned "race." Section four provides an understanding of how the first three discursive constructions enable and justify the US China Trade War. This "knowledge" of China justifies the expanded jurisdiction of CFIUS and justifies US-China Trade War as it can be understood as necessary to prevent the endangerment of US values and US-led global order. Section five focuses on the analysed articles that reveal a construction of an "AI race" through the lexis of Cold War rhetoric. This strand of the discourse frames China as the probable "winner" due to a lack of US governmental engagement with providing a national strategy, thus justifying the eventual announcement of the AAII and enabling the DoD AIS's conceptualisation of AI as critical to national security and global order.

Lastly, the conclusions of the research are drawn and the wider implications of the findings of this research are briefly explored to position the dissertation within the wider context of the literature. Overall, the dissertation shows that that the US discursive construction of China's ambitions in AI is inextricable from the US approach to AI.

Section One: Core Concepts

Both AI and China are complex subjects to examine; being opaque in what they "are" and how they ought to be understood. It is therefore beneficial to provide a summary of AI and China's ambitions for the technology. An overview of the US approach to AI is also included in this section. It is appropriate to include these sections separate from the literature review since there is limited academic scholarship pertaining to each of the subject matters.

AI: A Summary

The concept of AI first reached the imagination of the scientific community in the post-World War II period (Nilsson 2009). A robust definition of the concept is yet to be established (Sarangi & Sharma 2019). The first definition was given in 1957 by John McCarthy, defining AI as "the science and engineering of making intelligent machines" (McCarthy 2007). Most AI-focused academics, researchers, and commentators would agree that AI involves some level of making machines capable of performing tasks which require human intelligence (Boden 1990; Lee 2018; Sarangi & Sharma 2019). This broad understanding alone does not encapsulate all that AI is or could be. The current understanding of AI focuses its attention on DL (Lecun, et al. 2015; Lee 2018; Sarangi & Sharma 2019). DL is able to recognise patterns in data and digest this data with the intention of making decisions based on the learnt experiences from previous pattern recognition (Lee 2018). DL is reliant upon two

resources: computing power and large amounts of data (Ding 2018).

China's AI Ambitions

In July 2017, China released its NGAIDP: the official articulation of China's AI ambitions. The NGAIDP states that China intends to lead global AI development and "promote the overall competitiveness of the country and leapfrog development" by 2030 (State Council Department 2017, 3). The NGAIDP comes after the announcement of Made in China 2025 to focus specifically on AI. However, Made in China 2025 will provide much of the required infrastructure for Chinese AI (Ding 2018).

The plan addresses key tasks which will be crucial in achieving the plan's goals. One task reveals the ambition to use AI to strengthen "military and civilian intelligence technology" (State Council Department 2017, 21). AI has been said to be viewed as a "trump card" in the future of warfare (Kania 2017). However, the material evidence for the militarisation of AI technologies in China is limited (Ding 2018).

Other than for military applications, AI can benefit the Chinese economy, which is the primary focus of the NGAIDP (Ding 2018). AI applications could have a disruptive impact on China's economic growth, which is especially important as the population ages (McKinsey & Company 2017). The potential for productivity growth as a result of AI technologies, is a key driver for its research and eventual adoption as China comes towards the end of its demographic dividend (McKinsey & Company 2017).

Overall, China's AI ambitions centre on its aim to lessen its vulnerability of dependence on Western technologies with the purpose of securing future economic growth and stability (Ding 2018). AI is conceptualised within the NGAIDP to increase economic competitiveness and strengthen national security. AI is therefore understood by the Chinese State Council as pivotal to future Chinese prosperity.

The U.S. Approach to AI

The US approach to AI is characterised by three key developments: one which took place before the specified timeframe the articles are taken from, one during the timeframe of the articles and one the day after the specified timeframe. First, in 2016, under the Obama Administration, the National Science and Technology Council released the PFAI, outlining the future for AI within the US (US National Science and Technology Council 2016). The report provides an extensive review of how AI will impact society and the economy in the US. The PFAI focuses on opportunities and challenges that AI will pose to public policy concerns such as education and employment, whilst also briefly discussing the role of AI in national defence. The US published the PFAI in line with AI reports published by the EU and UK (Cath, et al. 2018). Taken together, the three reports emphasize the importance of cooperation between countries, where AI is used to make a positive impact upon both society and the respective economies (Cath, et al. 2018).

The second development can be traced to the Trump Administration's August 2017 investigation, aiming to "investigate China's laws, policies, practices, or actions that may be unreasonable or discriminatory and that may be harming American intellectual property rights, innovation, or technology development" (Trump 2018). This investigation, in addition to the US China Trade Wars, are related to AI. The findings refer to China's NGAIDP and AI more generally (Office of the United States Trade Representative 2018). An unofficial disclosure of the US demands at US China Trade Talks, in April 2018, reveals that China was asked to halt subsidies to its Made in China 2025 program which, among other advanced industries, focuses on AI development in China (Bradsher 2018). Moreover, in November 2018 the role of CFIUS was expanded to include areas of "critical technology" through a new pilot programme (U.S. Department of the Treasury 2018). Semiconductors and machinery used to manufacture semiconductors is classified as a "critical technology" under the new programme (Mnuchin 2018), this is of relevance since semiconductors are a critical component of AI technology (Ding 2018). The recency of the Trade War means there is a limited amount of published academic literature. However, numerous grey literature sources identify the AI industry to be a cause of the US China Trade War . This is not to argue that the motive for the US China Trade War is solely focused upon technology, specifically AI. Partial motivation for the US China Trade War can, however, be found to be inextricable from the rise of technological competition between the US and China.

The third, and most recent, development is embodied in the AAII and the DoD AIS. On February 11th 2019, a US Presidential Executive Order launched the AAII—signaling the growing importance of AI on the official agenda. The DoD AIS was released the following day. The AAII begins by stating the importance of US leadership in AI to maintain "the economic and national security of the United States and to shap[e] the global evolution of AI in a manner consistent with our Nation's values, policies, and priorities" (Trump 2019). Whilst, the introduction of the DoD AIS reads:

> "Other nations, particularly China and Russia, are making significant investments in AI for military purposes, including in applications that raise questions regarding international norms and human rights. These investments threaten to erode our technological and operational advantages and destabilize the free and open international order." (United States Department of Defense 2018, 5)

Both the AAII and DoD AIS draw on the importance of AI in respect to impacting US values and norms. With the DoD AIS developing this further by explicitly raising concern with Chinese investment in AI and the "threat" of this to the "free and open

international order" (United States Deparment of Defense 2018, 5). Talking of AI and its implications for the international order can be interpreted as the development of a new paradigm for AI, where AI is considered to be intrinsically linked to global power politics. "Paradigm" is understood not as something scientific or objective but "as a fundamental image, [which] serves to define what should be studied, what questions should be asked, how they should be asked, and what rules should be followed in interpreting the answers obtained." (Ritzer 1996, 637). Thus, as a paradigm, discourse related to AI is not merely what is frequently said of AI, but how AI ought to be understood.

Section Two: Literature Review & Conceptual Framework

This section reviews the relevant literature relating to AI and "rising" China. Literature pertaining to China's AI ambitions and the US approach to AI is scarce. However, a review of the literature on AI and "rising" China, more generally, is able to bring the dissertation into focus. The section also sets out the conceptual framework of the research. Together the core concepts (outlined in section one), the literature review and the conceptual framework form the basis of the analysis.

AI: From Technological Innovation to an "AI Race" for Supremacy

The enquiry of AI has elicited a vast body of literature within scientific discourse; however, it is only recently that its impact on socio-political realms have been considered. The advent of academic literature, whereby AI is considered from the political perspective, stems partly from the release of AI policy frameworks preparing for the widespread use of AI in society, published by UK, EU and US governmental bodies in late 2016 (Cath, et al. 2018). Literature pertaining to AI within the context of China is only now becoming more readily available following the announcement of the NGAIDP in July 2017. Current literature surrounding AI and China's AI ambitions identifies three main themes: AI as a technological development, China's advantage in AI, and the "race" to AI supremacy.

Much of the contemporary literature focuses on the progress made in the AI subfield of DL (Lecun, et al. 2015; Sarangi & Sharma 2019). DL allows for AI technologies which can further the national development and economy of a country (Jin, et al. 2015; Lee 2018). The key technological requirement of DL is a wealth of available data (Lecun, et al. 2015) and the requirement for its practical application is AI-friendly governmental policy and ambitious entrepreneurs (Lee 2018). These three findings form the logic behind the literature which argues China has the competitive advantage in AI.

Lee (2018) argues that China's competitive advantage stems from the abundance of accessible data available to AI developers in China. For example, the Chinese mobile application, WeChat (developed by Chinese tech-giant Tencent) collates unprecedented levels of valuable data which is then accessed from one central place, whilst in the US, data of this sort is dispersed across multiple app developers. Similar-

ly, the role of protectionism in providing a competitive advantage to China is considered within the literature (Aaronson 2018; Ding 2018). The internet in China exists closed-off to the rest of the world, therefore China maintains the exclusive control over data which has been generated from the large Chinese population (Ding 2018). This has prevented foreign rivals from accessing the vast amounts of data which can be used to fuel AI applications. Additionally, it is argued that weak data protection laws and regulations in China enable the easier collection of vast amounts of data (Larson 2018).

Conversely, Ding (2018), highlights the overstatement of China's advantage in AI. Ding's (2018) Deciphering China's AI Dream, dedicates a section of its research to looking at "China's AI capabilities" (2018, 23). By developing an "AI Potential Index" (Ding 2018, 28) based on a comparison of the US and China, the empirical research finds that China trails in every measure, except access to data. Semiconductors are a critical component of AI hardware, which China currently lacks in capabilities (Ding 2018).

Interestingly, the recent literature on AI shows a developing understanding of the role of AI technology, which has been absent from previous AI springs . This indicates a third theme within the literature. Previously, AI is explored in reference to its technological developments and applications (Boden 1990; Nilsson 2009). However, recent literature conceptualises AI to be intrinsically linked to the stability of the international system (Garcia 2018; Horowitz 2018; Payne 2018). AI is argued to be significant in the future of global military affairs, providing a strategic advantage in realm of international security (Kaspersen 2016; Horowitz 2018; Payne 2018). In September 2017, Putin was quoted saying that whoever leads in AI "will become ruler of the world" (Thornhill 2017). This outlook emphasizes that (regardless of material realities of the technology) AI is emerging to be crucial to national interests and the global balance of power, signaling the new paradigm for AI.

This dissertation seeks to understand the discursive construction of China's AI ambitions. Therefore, it is logical to review relevant "rising China" literature because this forms the current dominant discourse when speaking of China (Shambaugh 2007).

"Rising China"

The phenomenal growth of the Chinese economy over the past forty-years has motivated substantial interest in a "rising" China (Pan 2004). Central to the "rising" China discourse is the strand of discourse which identifies "rising" China as a "threat." A smaller sub-literature of this strand has also emerged. This sub-literature points to the importance of recognising the role of ideas in constructing the "reality" of the "China threat" literature, explicating that this discourse is based upon more than the material forces of a "rising" China (Pan 2004, 2012; Turner 2013). A second theme of the literature is to explore the idea of China as an "opportunity," which centres on both the economic opportunity of China and its political opportunity for global integration.

China Threat Theory posits that the rise of China constitutes a growing "threat" to the US and the unipolar system (Pan 2004). Throughout the "China threat" literature, it is argued that China is emerging as a threat to the global order as a result of increasing economic capacity and growing military capabilities (Pan 2004). Mearsheimer's (2006) influential work argues that China's economic growth will result in immense security competition between the US and China. This view of an antagonistic China is shared by Cohen (1997, 2007) who argues that China will seek some form of regional and eventually global influence. Much of the "China threat: literature centres on China's military capabilities (Bernstein & Munro 1997; Roy 2003). Pan (2012) in his assessment of this trend highlights that if military capabilities were the "sole criterion for threat assessment, the US would be more of a threat to China than the other way round" (2012, 26); going on to argue that this is either ignored within the paradigm or circumvented by shifting the focus to the alleged "asymmetric warfare capabilities" of China (Christensen 2001; Ahrari 2009). In addition to material forces, ideational forces must too play a crucial role in perception and embracement of a "rising China."

Pan (2004) and Turner (2013) both devote attention to the role of ideas in constructing the "threat" of a "rising" China. This sub-literature is part of a much broader discourse. Since the 1950s a significant body of work has emerged exploring American representations of China. A theme within the literature exploring historical US images of China emerges: positive and negative images of China are generally found to change in response to the external global circumstances at that given time (Isaacs 1958; Steele 1966; Iriye 1967). Harold Isaacs' (1958) seminal work identifies six "ages" where US representations of China can broadly be determined as positive or negative: the final era being the "Age of Hostility (1949-present)." This negative representation of China develops in line with establishment of a Communist China and its ideological opposition to the US. Within this strand of the discourse, the literature shows that the subjective truths of China develop according to the assumptions of the American-self (Thomson, et al. 1981; Pan 2004). Pan (2004) advances the view that the "China threat" literature is "best understood as a particular kind of discursive practice that dichotomises the West and China as self and other" (2004, 310). The "China threat" discourse comes under criticism when the large levels of continuing poverty are highlighted and the size of the country in brought into comparison with similar sized countries who are not considered a "threat" (Pan 2004). Therefore, the "threat" attached to a rising China must derive from more than just material forces (Pan 2004). Several scholars adhere to this idea, reasoning that the China "threat" has as much to do with ideational forces as it does with the Chinese economy and military capabilities (Chan 1999; Pan 2004; Turner 2013). This argument rests on the "us versus them" discourse advanced by Said (1995). Pan (2004) argues that the US believes that those outside of the "we" should become like "us" and those who refuse or cannot "are by definition the negation of universality, or the other" (2004, 312).

Much of the literature exploring the economic opportunity of China cen-

tres on its one billion customers (McGregor 2005) and its reputation for being the "world's workshop" making it ideal for outsourcing (Hutton 2006). This outsourcing has previously been argued to then allow Western firms to focus on higher value industries and more advanced research and design, so allowing them to maintain the competitive advantage (Engardio 2007).

The political opportunity of China focusses on two core ideas, both of which centre on the opportunity of democratic transition. First, the "wealth-democracy" connection is cited whereby as the wealth of a country increases, the political freedoms of its citizens increase too (Lipset 1960; Rowen 1996). Second, the idea that a gradual transition to democracy in China ought to and, in fact, is occurring (Pei 1995; Ogden 2002). An opposing strand of literature exists, whereby this modernisation theory is rejected as it is found to be not applicable in the case of China (Chen & Lu 2011; Dickson 2016). Chen and Lu (2011) found, using empirical research, that the growing Chinese middle class support the CCP due to preferable present conditions and a close dependency on the state. Moreover, one strand of the literature finds is that the CCP acts as the primary obstacle to the democratisation process (Jacobs 1991; Wenli 2003; Nathan 2015), suggesting that a full and open Western-style democracy is unlikely whilst the CCP maintains its leadership position. Finally, China as an opportunity for global integration focuses on the prospects of China becoming a "responsible stakeholder" (Pan 2012). This is based on the assumption of it becoming more open politically and economically (Pan 2012) and becoming more interdependent with other nations, specifically the US (Lake 2006).

Literature Review: Explaining the Rationale

An exploration of the recent literature reveals several gaps which help to understand the rationale for this dissertation. First, AI has not been explored for its ideational forces. AI has been reviewed in relation to China's material advantages, and the material impact that AI technology could have on the international balance of power. Yet, absent from the literature is an analysis of how AI is conceptualised and how the discussion of AI today can be seen as forming a new paradigm for AI. Discourse is not a closed system (Hall 2018), hence entwined with this is a consideration for the impact of "rising China" discourse on the emerging discursive construction of AI, which too has not yet been explored within the literature. Lastly, the recency of both the US China Trade Wars and the announcement of the AAII hinders the availability of any academic analysis of the US approach to AI.

This article makes an original contribution to the developing literature through its research question, which is positioned at the intersection of these three considerations identified as absent from the current literature.

Conceptual framework

When considering the developing conceptualisation of AI, it is useful to draw on the social constructivist approach, that "reality is socially constructed by cognitive struc-

tures that give meaning to the material world" (Alder 1997, 319). Social constructivism emphases the role of ideas, norms and identities in the international context (rather than placing emphasis solely on the distribution of material forces) (Wendt 1992; Hurd 2008). Within the context of this dissertation, this theoretical approach is valuable since it is able to help understand how AI is conceptualised. This does not mean that the material forces of either AI or China are insignificant. However, this dissertation argues that the ideational forces of AI, and the ideational forces of China, are too of interest to the research of the US approach to AI. Pan (2004) provides insight for this rationale:

> "I do not deny China's potential for strategic misbehavior in the global context… Having said that, my main point here is that there is no such thing as "Chinese reality" that can automatically speak for itself, for example, as a "threat". Rather, the "China threat" is essentially a specifically social meaning given to China by its U.S. observers" (Pan 2004, 313)

Thus, China's AI ambitions must also be studied from a perspective of social constructivism to uncover the ideational force of both AI and China and the influence this may have upon the US approach to AI. In this sense, this dissertation adopts a post-positivist approach as it aims to understand "how" events are spoken about (Hollis & Smith 1991). In the analysis of current AI news discourse, addressing "how" discourse has conceptualised China's AI ambitions is useful to better understand the US approach to AI.

This dissertation departs from Turner's (2014) persuasive contribution to the literature. Turner (2014) highlights a relationship (albeit not necessarily causal) between imagery and policy action. A core argument made by Turner (2014) is that "American images of China have always been central to the formulation, enactment and justification of US China policy in Washington" (Turner 2014, 7, 88). Turner (2014) focuses on the justification of US China foreign policy; this dissertation differs since it explicates the impact of news discourse on the US approach to AI – not direct foreign policy towards China. However, the US approach to AI is shown to centre on national security concerns. A "vital and intimate relationship" (Kissinger 1976, 182) exists between national security and US foreign policy, hence supporting the adoption of Turner's (2014) exposition.

Finally, Foucault (1980) finds that power and knowledge are inextricable from one another, meaning the advancement of one is not possible without the presence of the other. The impact of the power-knowledge nexus means that the given meaning of material forces (such as the material capabilities of AI) is derived from the "knowledge" about them (Wendt 1995). The acknowledgment of the power-knowledge nexus is fundamental to this research project; discourse is a way of representing

something, which then produces knowledge that forms the architecture of opinion and action (Hall 2018). The power-knowledge nexus is addressed within the analysis sections (4 and 5) to show how the news discourse uses different displays of power to advance "knowledge" of China's AI ambitions.

SECTION THREE: METHODOLOGY

This dissertation employs the method of DA to investigate how US news discourse on China's AI ambitions enables and justifies the US approach to AI. Discourse is understood as the social construction of reality (Foucault 1972, 24) and more specific to this dissertation, news media is found to actively construct reality instead of replicating it (Robinson 2001; Kuypers 2002, 74). Moreover, news media is shown to influence how readers interpret world affairs (Bennett & Paletz 2004, 8; McCombs 2004, 56). Further to this, several studies maintain that news discourse is inextricable from political action (Belle 2003, 7; Turner,2014, 88). With this in mind, it is appropriate to use DA to understand how news discourse relating to China's AI ambitions enables and justifies the US approach to AI.

DA is preferable to alternative textual analysis approaches due to its function of being both interpretive and constructivist (Halperin & Heath 2017, 31). DA assumes that the authors of the articles act on a system of values and ideologies which give meaning to the construction of the articles (Halperin & Heath 2017, 31). This is critical to understanding how the discursive construction of China's AI ambitions is built upon existing "rising" China discourse and an "American" ideological perspective held by the authors.

Sections four and five conduct an analysis of 29 purposively sampled articles from The NYTimes—published between the date of the Chinese State Council announcement of the NGAIDP (July 20th 2017) and President Trump's announcement of the AAII (February 11th 2019). A list of the sampled articles is found in the Appendix. The articles were published both in print and on the NYTimes online platform. For access reasons, the cited articles are sourced from the online platform, however, a version of each article was also published in print. While the headlines between the two publications differed slightly online as they take into account search engine demands (Bednarek & Caple 2012, 6), the content of both the printed and online articles is identical.

The NYTimes was selected due to its high levels of daily readership and recognition for being a source of outstanding journalism, evidenced by its numerous accolades – most notably being awarded almost double the number of Pulitzer Prizes than its nearest competitor (New York Times, 2018). Moreover, the NYTimes is understood to exhibit "an overall 'American' ideological perspective on news events and the world" (van Dijk 1998, 92).

Article selection for this dissertation is a limitation of the research. Selection of the articles relied on subjective personal judgment, which can introduce bias into the sample. Selection bias introduces a possibility of over or underestimating exag-

gerated generalizations (Halperin & Heath 2017, 31). During this timeframe, the NYTimes published 57 articles that referred to both AI and China. To minimize bias, selected articles needed to meet specific selection criteria. The 29 sampled articles were selected on the basis of dealing with a) China's AI ambitions, b) the US approach to AI, c) questions over the control of future technologies. Within this dissertation, AI is defined in line with the AAII. Where AI is understood to include core AI technologies, in addition to "architectural and systems support for AI" (Trump 2019, 86). This includes technologies such as 5G (Sharma 2013; Aijaz, et al. 2017, 3) and key hardware components (for example, semiconductors and microchips) (Ding 2018, 22). Therefore, articles referring to these technologies or technological components are included within the analysis as they are considered integral to the US approach to AI.

As with all DA, there is no standardized method (Wood & Kroger 2000, 98). As recommended by Mautner (2008), the analysis undertaken in this dissertation engages in an analysis of linguistic resources. Specifically, the lexis of the sampled articles is carefully considered, in addition to the use of modality and argumentative devices helping to understand how China's AI ambitions are spoken about within the articles. DA is a subjective practice, and so Wordbanks Online was consulted to confirm the evaluation of connotations for specific words. This ensures that the evaluation is grounded, and connotations are neither under nor overinterpreted (O'Halloran & Coffin 2004, 68).

Section Four: China's AI Ambitions as a Justification for the US China Trade War

This section presents the findings and analysis of the news discourse. Three central themes illustrate how the sampled articles construct China's AI ambitions, which then enable and justify the US China Trade War. First, China's ambitions are constructed as an AI "dystopia". Second, China is constructed as a "cheat". Third, China's AI ambitions are constructed as "threatening" to the current global order. Taken together, these three themes, enable and justify the US-China Trade War—the second development in the US approach to AI.

Formulating China as an AI Dystopia

Within the articles, China's AI ambitions are associated with the authoritarian state, which formulates China as an "AI dystopia". The construction of an "AI dystopia" is built upon existing 'China threat' discourse, whereby the imagined "other", since unlike "us" and not adhering to Western liberal ideals, must then be considered as a 'threat' (Chan 1999, 13). Using the "knowledge" of authoritarian China, helps to formulate a construction of an "AI dystopia" within ten of the articles (articles 4, 6, 7, 13, 15, 18, 20, 21, 25 & 27). Article 6 and 20 are explicit in this connection:

[1] "Human rights groups worry that such rapidly evolving capabilities will be abused by China's autocratic government." (Article 6)

[2] "With millions of cameras and billions of lines of code, China is building a high-tech authoritarian future." (Article 20)

Both excerpts highlight the role of AI in supporting the CCP. Moreover, in both cases, these assessments are formulated using affirmative modalities (Mautner 2008, 46); the technology "will be abused" [1] and China "is building" [2] a certain type of future (italics added to emphasize use of modality). Neither excerpts express the possibility of these outcomes, only certainty. Other articles rely on the existing 'knowledge' of an authoritarian China to make this connection; with authoritarianism seen as the antithesis to democracy, the liberal ideals of privacy and freedom are the reverse image of what can be expected of the Chinese State. Thus, this "knowledge" of China brings meaning to the lexis within the articles.

[3] "Human rights groups say Chinese authorities have been zealously using big data collection, A.I, and facial-recognition technology to upgrade Beijing's mass surveillance efforts." (Article 21)

Except 3 further contributes to a negative image of China's AI ambitions in its use of "zealously", which carries negative connotations. In all three excerpts, AI in China is constructed to help the CCP maintain social control, though a surveillance apparatus. Within the literature, the political 'opportunity' of China to democratize is found to be undermined by the leadership of the CCP (Jacobs 1991; Wenli 2003; Nathan 2015). Therefore, the use of AI to support the CCP, is an obstacle to China democratizing, hence undermining China as a political "opportunity" and reaffirming China as a "threat".

　　　　Within the articles, a focus was placed upon the role of AI in building a surveillance state and the "dystopian" impact of this. Existing China discourse is crucial to the formation of the emerging discourse surrounding China's AI ambitions. These already constructed ideas of China influence the association between AI and a dystopia. When considering the case of facial recognition in China, the discourse focuses on, not the use of this in fighting crime, but the "enabling [of] of full techno-police state" (article 7) and its facilitation of tracking citizens (articles 1, 6, 7, 20, 21 & 27). To strengthen the impression of full-scale mass surveillance, numerical figures were given for rhetorical effect:

[4] "Already, China has an estimated 200 million surveil-

lance cameras – four times as many as the United States"
(Article 20)

This statement illustrates two points. First, the number of cameras in both countries is proportional to the size of the population. Second, by making a comparison to the US, the author uses the rhetorical tool of implying a "good" US versus a "bad" China. Overall, this theme of the discourse constructs a "truth" about China that has mostly unethical uncivilized AI ambitions.

CHINA: "THE CHEAT"

China is portrayed as being unable to progress its AI development without the use of cheating or thieving. This constructs an image of an inferior China, which is unable to develop without some form of support from more advanced countries. For example, Made in China 2025 is expressed as being "cribbed" from Germany's strategic initiative to be a global leader in advanced manufacturing processes—Industries 4.0 (article 4). A construction of thieving and cheating China is also evident in the opening sentence of article 21:

> [5] "The Chinese immigrant found fortune harnessing
> Canadian talent to develop cutting-edge technology, ev-
> erything from semiconductors to facial recognition to
> take back to China" (article 21)

The use of a nationalistic dichotomy is effective in "othering" the Chinese immigrant. Within the literature, "othering" is found to be crucial to shaping and justifying the political action of the US (Turner 2014, 88). The article continues by explaining that it was later found the "Chinese thieving immigrant" has ties to the Chinese government. The context of this within the wider discourse is important. Using this single example of a "thieving immigrant" who "enjoyed ties to the Chinese government" (article 4) supports the wider rhetoric of the Chinese government cheating to obtain advanced technologies by means of intellectual property theft (articles 3, 4, 8, 14, 19 & 24) or by using Chinese governmental pressure to share US technology with Chinese companies to gain access to the Chinese market (articles 2, 3, 12, 14, 19 & 24).

Only one article (article 5) contradicts the general theme of constructing China as a "cheat" or "thief". Article 5, instead, describes China as "taking advantage of the United States' open approach to foreign investment to access sensitive technology". This equally is not a neutral position, as it still insinuates an ambition to access technology, which is critical to US national security . However, rather than constructing China as a "cheat", it has described China to be acting on a weakness of a "loophole" in the CFIUS review process. These constructions of China enable the call to broaden the scope of CFIUS under the new pilot program (outlined within section 1.3).

Need to Protect US-Based Global Order
Some of the sampled articles (4, 11, 22, and 25) refer to the potential impact of AI development on the US-led global order. One online headline reads:

> [6] "China's Technology Ambitions Could Upset the Global Trade Order" (Article 4)

The lexis of the headline uncovers the ideology it is built upon; to "upset" the order would suggest that in the opinion of the author, the current order is preferable. Another article asserts the importance of a "democratically elected government" (article 22) in having "input" in how AI is deployed. The inverse of this statement would be that a non-democratic, non-elected government ought not to have an input. Therefore, the hidden meaning of this text can be interpreted to be that China, by not having a "democratically elected government", ought not to have an input in how AI is deployed.

Moreover, the US is constructed as the protector of the liberal order. US companies are shown to be concerned with the protection of individual liberties such as freedom and the ethical deployment of AI, as opposed to Chinese companies who do not. US company, Google, is shown within multiple articles (13, 17 & 25) to be concerned with ensuring the ethical deployment and design of AI technology. Article 25, whilst not specifically naming China, explicates the conflict between applications of AI for surveillance purposes and the liberal order:

> [7] "a Google spokesman said… that the company's 'A.I. principles' stated that it would not design or share technology that could be used for surveillance 'violating internationally accepted norms'." (Article 25)

The impact of this statement on the wider construction of China is important. Only two of the articles refer to the case of Snowden exposing US surveillance practices (articles 13 and 15), whilst three times as many refer to Chinese State Surveillance (articles 1, 6, 7, 20, 21, and 27).

Contrasting the US, which is shown as having ethically conscious companies, Chinese companies are highlighted to lack the same principles:

> [8] "Eric Hsu … an American data scientist … said he worked on artifcial intelligence capable of recognizing a person's face across multiple surveillance feeds … 'A lot of these security applications were both humanitarian and ethically troubling,' he said … 'Chinese clients had lots of ideas for ways they would use our applications.

Some of those raised red fags'." (Article 21)

[9] "They found Chinese tech executives to be less reflective about the social impact and potential misuse of their technologies" (Article 27)

Both excerpts 8 and 9 assist in constructing an impression of the unethical Chinese industrialist. This extends beyond the role of the "authoritarian state" in creating an AI "dystopia" to include the individual. Therefore, creating an image of an entire country, top-to-bottom, with troubling AI ambitions.

HOW THIS ENABLES AND JUSTIFIES THE US-CHINA TRADE WAR

China is constructed as an irresponsible stakeholder in the creation and deployment of AI technologies, whilst the US is constructed as the guardian of liberal norms that have come under threat in the advancement of AI. The discursive construction of an "AI dystopia", China the "cheat" and China's AI ambitions as a "threat" to the US-led global order first, reaffirm "China threat" discourse and second, undermine China as an "opportunity" discourse. China's AI ambitions are constructed as a "threat" to the unipolar system and show China, in the case of AI, to not act as a "responsible stakeholder" in the global system. Thus, enabling US action that acts to prevent China advancing its AI capabilities. This discourse justifies the US China Trade War because it creates a "reality" whereby unless the US acts to prevent it, China will endanger the US-led global order and liberal values.

The NYTimes, in their "power" of being a trusted news source, contributes to the production of "knowledge" about China. Within the analyzed articles, China is the "immoral" engineer of AI-enabled surveillance technology. The US is juxtaposed as the conscientious "moral" navigator of AI. However, the US is not a flawlessly "responsible" actor and too has used surveillance capabilities on its population (Greenwald 2014). As Turner (2014) shows, double standards such as these "can only occur in a world given meaning by discourses which tell us that certain actors are 'responsible' and legitimately able to judge the responsibility of others" (2014: 151). This is how the US is able to justify its actions during the US-China Trade War.

Regardless of the material "truth" of China's AI ambitions, this dissertation shows that the discursive construction of China's AI ambitions is inextricable from the US-China Trade War. Eight of the articles (14–16, 18, 19, 22, 25 & 29) all link China's ambitions in technology to the US-China Trade War. Alternative justifications for the US-China Trade War should not be discredited. However, within the discourse China is understood as having unethical AI ambitions, which it seeks to achieve through the immoral practices of cheating and thieving. China's AI ambitions are shown to threaten the US-led global order and so it is the "responsibility" of the US to prevent China from realizing its AI ambitions.

Section Five: China 'Winning the AI Race' as a Justification for the AAII and DoD AIS

Two additional themes develop within the sampled articles which, when considered in conjunction with the three initial themes of section 4, enables and justifies the AAII and DoD AIS. First, AI is conceptualized through the lens of Cold War politics to create an 'AI race'. Second, China is formulated as currently "winning' this 'race", whilst the US is juxtaposed as "losing" due to the absence of an official US strategy.

Conceptualizing AI Through the Lens of Cold War Politics

As with the reviewed literature, some of the articles refer to the development of AI using Cold War metaphors; the impetus for AI development (both in the US and China) is conceptualized as the "Sputnik moment" (articles 13, 18 & 22). The conceptualization of AI through the lens of Cold War politics is also evidenced in article 10, 15 and 26. Article 10 conceptualizes China's AI ambitions as "the country's own version of the Apollo 11 lunar mission". Moreover, article 26 draws on the historical example of US corporations in assisting the national interest during the Cold War to support Microsoft's recent decision to supply the Pentagon with AI technology. Metaphors are essential for the discursive construction of social realities (Lakoff & Johnson, 1980). In using Cold War metaphors, AI leadership is understood within a "network of entailments" (Lakoff & Johnson, 1980, 132), which then constitutes a license for political action (Lakoff & Johnson, 1980, 132).

When reporting on the advancement of the development of the AI industry, multiple articles referred to national security and the military applications of AI (articles 1–3, 10, 15, 17, 23, 26, & 29). For example:

> [10] "Artificial intelligence research has enormous potential and enormous implications, both as an economic engine and a source of military superiority" (Article 17)

Excerpt 10, using the repetition of "enormous" emphasizes the size of the perceived positive and negative impact of the technology, indicating to the reader, the critical importance of AI. The articles when taken together, support the development of the new paradigm for AI where the technology is understood within the scope of international security and global power politics. The articles define the parameters for how AI is discussed and how it ought to be understood (Ritzer 1996). Excerpt 11 is the accumulation of this construction, explicating the precedent for government funding, and the involvement of the Defense Department, in the US AI industry:

> [11] "Thanks to government funding, we got the nuclear industry, the space program, the aviation industry, and the internet, which was initially sponsored by the Defense Department" (Article 22)

Moreover, making a comparison between AI and nuclear weapons constructs an idea of the devastating capabilities of AI applications and successfully conceptualizes AI as a requirement for the US national defense. Thus, supporting the expansion in the jurisdiction of CFIUS.

CHINA LEADING THE WAY IN AI DEVELOPMENT

Entwined in the discourse, are numerous examples of "China's technological prowess" (article 7) against that of the US. China's AI capabilities are drawn upon to eventually build an impression of a "winning" China in the "race" to AI superiority (articles 6, 7, 9, 10, 13, 16, 19, 20 & 22). For example:

> [12] "Two years before Microsoft did, Baidu, the Chinese internet search company, created software capable of matching human skills at understanding speech. This year the Shanghai-based start-up Yitu took first place in a major facial recognition contest run by the United States government" (Article 6)

Explicating the "loss" of Microsoft, a symbol of US technological capabilities, China is shown to be the stronger contender against the US. Moreover, the reporter draws attention to the ability of Chinese firms to "win" even when under the "legitimate judge" of the US government, and therefore insinuating the capabilities of Chinese technology firms is more than the propaganda of the Chinese State. The use of these three examples of Chinese triumphs within close succession constructs an impression of a "winning" China, whilst the "loses" of Chinese AI beyond these chosen examples are not shown.

The legitimacy of the idea that China is leading in the "AI race" is further enhanced through the use of authoritative voices. Within the article headlined "As China Marches Forward on A.I., the White House is Silent", prominent voice Kai-Fu Lee is quoted as "former Microsoft and Google executive who now runs a prominent Chinese venture capital firm dedicated to artificial intelligence". Lee is quoted within the article:

> [13] "China is going to become one of the most powerful – if not the most powerful – A.I. countries in the world," (Article 10)

This quotation provides a strong evaluation of the "race" between the US and China, which may otherwise not have been included as such a statement lacks impartiality and objectiveness from the NYTimes (Bednarek & Caple 2012, 6). Article 10 emphasizes the drive for AI in China, whilst highlighting the lack of US government en-

gagement with the industry. The quotation from Lee summarises the outcome of the
"AI race" if the US continues on the pathway of a lack of engagement in developing
an official AI strategy. The use of a direct quotation, rather than an indirection quo-
tation, distinguishes the voice of Lee from that of the NYTimes (Fairclough 1988).
This enables the paper to remain objective whilst working to construct an impression
of the future of AI supremacy. The "power"'of this authoritative voice and its impact
upon the "knowledge" of the "AI race" is illustrative of the power-knowledge nexus
(Foucault 1980, 24; Wendt 1995), explored in section two of this dissertation.

        Entwined within the idea of China leading the way in AI development, and
following from the literature, a recurring trend emerges, drawing on the advantage
China has when it comes to AI (articles 6, 7, 9, 10, 27 & 28). The discourse explicates
the advantage endowed from a large population size, which enriches the scope of the
creation of valuable data that can then be used in AI applications. Moreover, China
is also portrayed to have dominant ambitions that are not challenged by the US. A
selection of the sampled articles discursively constructs the Trump Administration as
"reluctant" to commit to the development of the US AI industry. The articles are criti-
cal of the trade wars and the negative impact of tariffs on US AI development (articles
22 & 29), whilst pointing to an insufficient budget for AI development (articles 10,
19 & 22) and the absence of a national strategy to for the US to lead the way in AI
(articles 10, 19 & 23). Articles 19 and 22 are particularly critical of the US approach
to AI through the implementation of tariffs to "punish Beijing" (article 19). For ex-
ample, one sentence reads:

> [14] "If the United States is worried that the Chinese
> will win the future because they're actually spending
> money to win the future, why aren't we doing the same?"
> (Article 22)

The use of "win" in the excerpt uncovers the "AI race" discourse this statement is built
upon. Also, the rhetorical question used within this article a rapport is built with the
reader by appealing to the "unifying force of common sense" (Mautner 2008, 46).
Several of the sampled articles make indirect call for a US strategy for AI and increased
funding:

> [15] "[Many economists] say the administration
> needs a proactive strategy to bolster American in-
> novation and technology" (Article 19)

Whilst "many economists" is an unnamed source, it adds credibility to the argument
advanced in the headline of the article: "In Hitting China on Trade, Trump Is Seen
Neglecting U.S. Emerging Industries". Moreover, the use of the indirect reported
speech (many economists) contributes to persuading the reader towards a specific

viewpoint (van Dijk 1998, 92). Persuading the option of the reader is also seen in excerpt 16, where the excerpt calls for official US action:

> [16] "Americans should respond as we did in 1957, when we sharply increased government spending on science after the Soviet Union launched the world's first man-made satellite, Sputnik 1" (Article 22)

The modal verb "should" informs the reader, with certainty, what ought to happen. Whilst, a shared identity between the reader and the author of the article is established by the construction of "we" the "Americans". The excerpt, using a set of linguistical tools, including the use of "should" and "we", acts to inform the reader what is the moral obligation of "them" the "American" and "their" government.

How This Enables and Justifies the American AI Initiative and DoD AIS

The discursive construction of an "AI race" with a "winning" China coupled with calls for an official governmental strategy enables and justifies the AAII and DoD AIS. The articles illustrate a discursive construction of the "AI race" where Cold War metaphors are used as a linguistical tool in the construction of this social reality. Conceptualizing AI as important for the security and defense of the US, justifies the most recent US approach to AI. The AAII emphasizes US intentions to maintain leadership in AI. This can be considered inextricable from the discursive construction of a "winning" China because previous US approaches to AI have not focused on taking the "AI leadership position". It also signifies the development of a new paradigm for AI, where AI is discussed in relevance to global security and order. The themes discussed within section four can additionally be found to justify the most recent US approach to AI. Both the AAII and the DoD AIS draw on the importance of leadership in AI to maintain the hegemony of US values in the global order, as shown in section one, part three (1.3).

Moreover, the analyzed articles can be seen as inextricable from the timing of the announcements of both the AAII and DoD AIS. News media is found to actively construct reality (Robinson 2001, 74; Kuypers 2002, 32), to influence how readers interpret world affairs (Bennett & Paletz 2004, 8; McCombs 2004, 56) and to shape reader opinion (Hall 2018). Therefore, the articles can be understood as creating a "knowledge" of the US approach to AI. This is a "knowledge" where the Trump Administration was slow in its response to China and initially passive in providing a strategy to guide the US AI industry. Thus, shaping the reader's opinion based upon the position of articles: the US government needs to create a strategy. Hence, providing an understanding of how the AAII and DoD AIS was both enabled and justified.

Conclusion

The research focus of this dissertation has been to understand how news discourse relating to China's AI ambitions enables and justifies the US approach to AI. This disser-

tation addresses an important research area, which has not yet been addressed within the literature: the ideational forces of AI and its intersection with a "rising" China, and the subsequent influence on the US approach to AI. The research finds that news discourse pertaining to China's AI ambitions is inextricable from the US approach to AI. The conclusions of this dissertation contribute to an analysis of the US approach to AI and the wider literature that has explored the role of news discourse in justifying political action (Turner 2014, 88; Ooi & D'Arcangelis 2018).

To answer the research question: "How does news discourse relating to China's AI ambitions enable and justify the US approach to AI?" the dissertation carried out a DA of 29 NYTimes articles. Section four shows how China is constructed to have "dystopian" AI ambitions, to be a "cheat" and to have AI ambitions which are a "threat" to the US-led global order. Overall, China's AI ambitions are constructed as unethical and their capabilities were stolen from the West. Moreover, the AI ambitions are closely linked to the authoritarian government using the technology for social control. These findings reaffirm "China threat" discourse, whilst undermining the political "opportunity" discourse of China, since AI is expressed as bolstering the CCP leadership and thus preventing the democratization process (Jacobs 1991, 32; Wenli 2003, 86; Nathan 2015, 74). These three themes found within the articles work together to enable and justify the US-China Trade War – the second development in the US approach to AI. This "knowledge" of China, constructed within the studied articles, justifies the pilot program which has expanded the jurisdiction of CFIUS. Moreover, the Trade Wars, understood as a response to China's technological "rise", are justified as they can be understood as necessary to prevent the endangerment of US values and US-led global order.

Section five illustrated how two additional themes work in concert with the findings of Section four to enable and justify the third development in the US approach to AI, the AAII and DoD AIS. First, within the articles, a discursive construction of an "AI race" emerges. Second, China is constructed as "winning" this "race", whilst the Trump Administration is slow to respond. This construction of the "reality" of the AI has three consequences. First, by using Cold War metaphors to construct an "AI race" AI is conceptualised as important for the national security of the US. Second, the construction of the "reality" of AI is argued to be inextricable from the timing of the announcements of both the AAII and DoD AIS. Finally, AI is conceptualized in a way that can be seen to have established a new paradigm for how AI should be understood and discussed.

It would be valuable for future research to examine the US approach to AI and its intersection with other national AI strategies. The salient news coverage of AI in China and the US could distract from the other countries devising strategies to become major players in AI (for example Singapore, United Arab Emirates, Israel, India, France and Canada). Justification for the US approach to AI cannot alone be the "rise" of China, but instead will draw on the need to ensure that US AI is more advanced than all countries aiming to make progress within this industry.

A wider implication of this research is the further questions that arise from an early inquiry into the US approach to AI. One question that ought to be considered is could the US approach to AI be considered a form of neo-containment policy? It is found that "military haws and Christian conservatives" usually demand firmer approaches to China (Gries & Crowson 2010). Under the current US administration, it could therefore be suggested, that China is viewed as a "threat" which ought to be "contained". Whilst, this not the focus of this dissertation, this is an area of research that could complement the analysis of this dissertation. Additionally, an investigation into the securitization of AI to examine the conceptual transition between the 2016 and 2019 would have helped to better understand the US approach to AI.

The US approach to AI ought to be given attention by researchers of US-China relations and specifically, those who devote attention to Western representations of China. Discourse pertaining to China's AI ambitions does not stand insulated from the neighbouring discourse of "rising" China; the "knowledge" of China's AI ambitions is built upon it and reaffirms it.

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