From the Great Wall to the Great Firewall:
A Historical Analysis of Surveillance

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Abstract

This article delves into the historical development of surveillance practices in China, tracing their roots from the construction of the Great Wall to the contemporary cyber surveillance system known as the Great Firewall. The study explores the strategic importance of the Great Wall as an early warning system and its significance in shaping China's modern national security strategies. Additionally, the article examines the evolution of surveillance techniques throughout China's dynastic history, the impact of Western influences, and the emergence of a modern surveillance state under the People's Republic of China. The analysis then shifts its focus to the development, implementation, and objectives of the Great Firewall, highlighting its role in both domestic control and international cyber warfare. Lastly, the article addresses the ethical debates surrounding surveillance and privacy in China, along with the future implications of emerging technologies and trends in the country's national security strategy. Through this historical lens, the article aims to provide a comprehensive understanding of China's long-standing relationship with surveillance and its crucial role in national security, while also shedding light on potential future developments and global implications.

Keywords: Chinese national security, Cyber surveillance, Cyber surveillance, Great Wall of China, History of surveillance in China.

Jel Codes: F50, H56, H56, P25, P37.

Özet

Bu makale, Çin'deki gözetim uygulamalarının tarihsel gelişimini, Büyük Çin Seddi'nin inşasından günümüzdeki siber gözetim sistemi olan Büyük Siber Güvenlik Duvarı'na kadar uzanan köklerini incelemektedir. Çalışma, Büyük Çin Seddi'nin erken uyarı sistemi olarak stratejik önemini ve Çin'in modern ulusal güvenlik stratejilerini şekillendirmedeki önemini araştırmaktadır. Ayrıca, makale Çin'in hanedanlık tarihi boyunca gözetim tekniklerinin evrimini, Batılı etkilerin etkisini ve Çin Halk Cumhuriyeti'nin altında modern bir gözetim devletinin ortaya çıkışını incelemektedir. Analiz, Büyük Güvenlik Duvarı'nın geliştirilmesi, uygulanması ve amaçlarına odaklanarak, hem iç kontrol hem de uluslararası siber savaş alanında oynadığı rolü vurgulamaktadır. Son olarak, makale, Çin'deki gözetim ve gizlilikle ilgili etik tartışmaları ve yeni teknolojiler ve eğilimlerin ülkenin ulusal güvenlik stratejisi üzerindeki gelecekteki etkilerini ele almaktadır. Bu tarihsel bakış açısıyla, makale Çin'in gözetimle olan uzun süredir devam eden ilişkisini ve ulusal güvenlikteki kritik rolünü kapsamlı bir şekilde anlamaya çalışırken, aynı zamanda potansiyel gelecekteki gelişmeler ve küresel etkiler hakkında da bilgi sunmayı amaçlamaktadır.

Anahtar Kelimeler: Büyük Çin Seddi, Büyük Siber Güvenlik Duvarı, Çin ulusal güvenliği, Çin'in siber güvenlik stratejisi, Gözetim etiği

Jel Kodları: F50, H56, H56, P25, P37.

Methodology

This study employs a multi-disciplinary approach to examine the historical development of surveillance practices in China's national security, drawing upon the fields of strategy, history, and international relations. The methodology for this article consists of historical analysis, qualitative case studies, and a review of relevant literature.

To gain a comprehensive understanding of surveillance practices in China, a historical analysis will be conducted to trace the evolution of these practices from the construction of the Great Wall to the implementation of the Great Firewall. This analysis will involve a close examination of primary sources such as historical documents, government records, and contemporary accounts. The study will also consider secondary sources, including academic articles, books, and policy papers, to contextualize the historical events and situate them within the broader framework of China's national security strategies.

Qualitative case studies will be used to explore specific instances of surveillance practices in different historical periods and to analyze the role of these practices in shaping China's national security strategies. These case studies will be selected based on their relevance to the research

questions, as well as their significance in the development of China's surveillance practices. Data for the case studies will be collected from a variety of sources, including government documents, expert opinions, and scholarly works. The case studies will be analyzed using thematic analysis, focusing on recurring patterns and themes that illustrate the relationship between surveillance practices and national security in China.

Lastly, the article will include a review of relevant literature in the fields of strategy, history, and international relations. This literature review will help to identify the key debates and scholarly contributions to the study of surveillance and national security in China. The review will also serve to situate the article within the existing body of research, allowing for a critical assessment of the study's findings and their implications for the broader academic discourse.

By employing this multi-disciplinary methodology, the article aims to provide a comprehensive and nuanced understanding of the historical development of surveillance practices in China's national security, as well as the implications of these practices for the country's domestic and international strategies.

Introduction

Throughout history, China has utilized surveillance as a crucial component of its national security strategies. From the construction of the Great Wall to the implementation of the Great Firewall, the country has consistently employed innovative methods to monitor and protect its territory and populace. The Chinese state's reliance on surveillance reflects its deep-rooted concern for maintaining domestic stability and safeguarding its sovereignty in an ever-evolving geopolitical landscape (Bamman, O'Connor, Smith, 2012: 1-10).

This article aims to provide a historical analysis of surveillance in China's national security, tracing its development from ancient times to the present day. By investigating the various forms of surveillance that have shaped the country's security strategies (Creemers, 2017: 5), this study seeks to shed light on the strategic, historical, and international dimensions of China's surveillance apparatus. In doing so, the article endeavors to contribute to the scholarly discourse on surveillance, national security, and state power in contemporary China (Qiang, 2011: 12).

The purpose of this study is to examine the evolution of surveillance practices in China and their role in shaping the country's national security strategies. By exploring the historical context in which these practices emerged and developed, the article seeks to provide a nuanced understanding of the interplay between surveillance, state power, and national security in China. In addition, the study aims to identify key trends and patterns in the country's surveillance practices, as well as the implications of these trends for China's domestic and international security policies (Lieberthal, Oksenberg, 1988: 45-46).

To achieve these objectives, the article employs a multi-disciplinary approach, drawing upon the fields of strategy, history, and international relations. The methodology includes historical analysis, qualitative case studies, and a review of relevant literature, allowing for a comprehensive and rigorous examination of the subject matter (Creemers, 2017: 6). By employing this multi-disciplinary methodology, the study aims to offer valuable insights into the historical development of surveillance practices in China's national security and their implications for the country's domestic and international strategies.

In conclusion, the present article seeks to contribute to a deeper understanding of the historical development of surveillance practices in China and their role in shaping the country's national security strategies. By employing a multi-disciplinary approach and drawing upon a wide range of sources, the study endeavors to provide a comprehensive and nuanced analysis of this complex and understudied area of research.

1. The Great Wall: Ancient Surveillance and Defense

1.1. The construction and function of the Great Wall

1.1.1. Historical context and strategic importance

The Great Wall of China, a monumental fortification system stretching over 13,000 miles, was built to serve as a defensive barrier and early warning system for ancient Chinese states. The construction of the Great Wall can be traced back to the Warring States period (475-221 BCE), when separate walls were built by various states to protect their territories from invasions (Waldron, 1990: 1). The unification of China under the Qin Dynasty (221-206 BCE) saw Emperor Qin Shi Huang initiating a massive project to connect and expand these walls into a single, continuous structure (Turnbull, 2007: 21).

The strategic importance of the Great Wall lay in its ability to hinder the movements of hostile forces, primarily nomadic tribes from the north, such as the Xiongnu, who posed a significant threat to China's northern frontiers (Lorge, 2012: 27). The Wall functioned as a physical barrier, delaying invasions and providing the Chinese military with time to mobilize and respond to external threats (Waldron, 1990: 4). Moreover, the Great Wall served as an early warning system, with watchtowers and beacon towers strategically positioned along its length to relay signals and communicate information about enemy movements (Turnbull, 2007: 43).

The Great Wall's significance as a symbol of ancient Chinese surveillance and defense cannot be understated. Its construction, maintenance, and continuous expansion across various dynasties reflected the perpetual concern for territorial security and the need for effective surveillance strategies in ancient China (Waldron, 1990: 7). The Wall's ability to deter and delay invasions, as well as to facilitate communication and intelligence gathering, played a crucial role in shaping China's military and geopolitical strategies throughout its history (Lorge, 2012: 27-28).

The study of the Great Wall offers valuable insights into the origins and development of surveillance practices in China. Its strategic importance and function as a defense and early warning system highlight the centrality of surveillance in ancient Chinese national security strategies. Furthermore, the Wall's endurance as a symbol of Chinese state power and territorial integrity underscores the enduring relationship between surveillance, national security, and statecraft in China (Turnbull, 2007: 58).

1.1.2. Surveillance and early warning systems

The Great Wall was more than just a physical barrier; it was also an intricate surveillance and early warning system designed to monitor and respond to potential threats. The Wall's extensive network of watchtowers, beacon towers, and garrisons played a vital role in facilitating communication, intelligence gathering, and rapid response to invasions (Lovell, 2006: 122).

Watchtowers were strategically placed at regular intervals along the Wall, providing soldiers with vantage points to observe the surrounding terrain and detect approaching enemies (Hessler, 2007: 98). These watchtowers were often constructed with multiple levels, allowing for increased visibility and facilitating the deployment of soldiers and archers in the event of an attack (Man, 2008: 112).

Beacon towers, on the other hand, served as communication hubs, enabling the rapid transmission of information along the Wall through the use of smoke signals during the day and fire signals at night (Yates, 1997: 305). The coordinated use of these signals allowed for the swift communication of enemy movements, the alerting of reinforcements, and the mobilization of troops in response to threats (Lorge, 2005: 81). This early warning system was crucial in providing Chinese forces with the time and information necessary to mount an effective defense against invaders (Man, 2008: 113).

Garrisons stationed along the Great Wall further bolstered its surveillance capabilities, with soldiers responsible for patrolling the Wall, manning the watchtowers, and operating the beacon towers (Yates, 1997: 306). These garrisons were also responsible for maintaining the Wall's structural integrity, ensuring its continued effectiveness as a defensive and surveillance tool (Lovell, 2006: 123).

The sophisticated surveillance and early warning systems employed by the Great Wall are indicative of the importance placed on intelligence gathering and communication in ancient Chinese national security strategies (Hessler, 2007: 99). The Wall's design and function demonstrate a clear understanding of the need for effective surveillance practices in order to maintain territorial security and respond to external threats. Furthermore, the Wall's enduring legacy as a symbol of Chinese state power and surveillance capabilities underscores the centrality of surveillance in the country's historical development and national security strategies (Lorge, 2005: 82).

In conclusion, the Great Wall of China represents a remarkable example of ancient surveillance and early warning systems, illustrating the strategic importance of intelligence gathering, communication, and rapid response in the defense of a nation. As the precursor to modern-day surveillance practices in China, the Great Wall offers valuable insights into the historical development of surveillance and its role in shaping the country's national security strategies.

1.2. Lessons from the Great Wall for modern national security strategies

The Great Wall of China, with its extensive surveillance and early warning systems, provides important lessons for contemporary national security strategies. Despite the differences in technology and geopolitical contexts, the principles behind the Great Wall's design and function remain relevant to modern security practices (Gaubatz, 1996: 117).

- The importance of intelligence and information gathering: The Great Wall's extensive network of watchtowers and beacon towers facilitated the gathering and transmission of vital information on enemy movements and potential threats (Hessler, 2007: 98). This focus on intelligence gathering emphasizes the importance of accurate and timely information for effective decision-making and rapid response in modern security strategies (Gaubatz, 1996: 118). Today, intelligence agencies and surveillance systems, such as satellite imagery and electronic monitoring, play a critical role in gathering information and maintaining national security (Lorge, 2005: 82).

- The role of communication and coordination: The Great Wall's early warning system relied on efficient communication and coordination among watchtowers, beacon towers, and garrisons to alert reinforcements and mobilize troops (Yates, 1997: 305). This highlights the significance of effective communication and collaboration among various security forces and agencies in modern national security strategies (Gaubatz, 1996: 119). Interagency cooperation, information sharing, and coordinated responses are essential components of contemporary security frameworks.

- The value of deterrence and defense: The Great Wall served not only as a physical barrier but also as a symbol of Chinese state power and territorial integrity (Lovell, 2006: 123). Its sheer scale and imposing presence served as a deterrent to potential invaders, illustrating the value of deterrence in modern security strategies (Gaubatz, 1996: 120). Today, maintaining a strong military presence, advanced technology, and robust defense capabilities are crucial components of national security strategies, aimed at deterring potential adversaries and ensuring territorial integrity.

- The adaptability of security strategies: The Great Wall's construction, expansion, and maintenance across various dynasties demonstrate the need for security strategies to adapt to changing geopolitical contexts and threats (Man, 2008: 112). Modern national security strategies must also remain flexible and adaptable, incorporating new technologies, addressing emerging threats, and adjusting to shifting global dynamics (Gaubatz, 1996: 121).

In conclusion, the Great Wall of China offers valuable lessons for contemporary national security strategies, emphasizing the importance of intelligence gathering, communication, deterrence, and adaptability. By examining the principles underlying the Great Wall's design and

function, modern policymakers and security practitioners can glean insights into the development of effective security frameworks and practices that address contemporary challenges and threats.

2. The Evolution of Surveillance in China

2.1. The role of surveillance in China's dynastic history

2.1.1. Pre-modern surveillance techniques and strategies

Surveillance has played a critical role in maintaining social order, political control, and territorial integrity throughout China's dynastic history. Beyond the Great Wall, Chinese rulers employed various pre-modern surveillance techniques and strategies to monitor their subjects and address potential threats to their rule (Fairbank, Goldman, 2006: 145).

One of the earliest examples of state surveillance in China can be traced back to the Qin Dynasty (221-206 BCE), where the emperor implemented a strict system of population registration and control known as the "li-jia" system (Szonyi, 2005: 33). This system divided households into groups of ten, with each group responsible for reporting on the activities and behavior of its members. The li-jia system facilitated population control and enabled the state to monitor the populace effectively (Fairbank, Goldman, 2006: 146).

During the Han Dynasty (206 BCE - 220 CE), the state further developed its surveillance capabilities by employing a network of spies and informants, known as "yushi" and "zhangshi," to gather intelligence on potential political dissidents and conspiracies against the emperor (Dreyer, 2010: 18). These agents operated both within the imperial court and in local communities, providing the emperor with valuable information to maintain control over his vast empire (Szonyi, 2005: 34).

The Song Dynasty (960-1279) saw the rise of a more organized and sophisticated surveillance apparatus, including the establishment of the "dongchang" and "xichang" secret police agencies (Brook, 2010: 68). These agencies were responsible for investigating cases of corruption, treason, and other threats to the state, employing a range of surveillance techniques such as the use of informants, undercover agents, and interrogation (Dreyer, 2010: 19). The Song dynasty also witnessed the development of a comprehensive postal system, which enabled the rapid

transmission of information and facilitated communication between various branches of the government (Brook, 2010: 69).

In the Ming (1368-1644) and Qing (1644-1911) dynasties, the Chinese state continued to refine its surveillance practices, employing a combination of bureaucratic control, secret police agencies, and population registration systems to maintain social order and political stability (Szonyi, 2005: 35). The Ming dynasty saw the establishment of the "Eastern Depot" (dongchang) and the "Western Depot" (xichang), secret police organizations responsible for monitoring and suppressing dissent and threats to the emperor (Fairbank & Goldman, 2006: 148). The Qing dynasty, on the other hand, implemented the "baojia" system, an updated version of the li-jia system, which further enhanced the state's ability to monitor and control its subjects (Szonyi, 2005: 36).

In summary, surveillance techniques and strategies have been an integral component of China's dynastic history, with successive rulers employing various methods to monitor their subjects and maintain political control. These pre-modern surveillance practices laid the foundation for the development of modern surveillance systems and technologies in contemporary China.

2.1.2. The impact of Western influences on Chinese surveillance

The encounter with Western powers during the 19th and early 20th centuries led to a significant transformation of China's surveillance practices. As Western imperialism and modernization influenced Chinese society and politics, the state adopted new technologies and methodologies to maintain control over its population and counteract external threats (MacFarquhar & Schoenhals, 2006: 99).

During the late Qing Dynasty, the Chinese government began to modernize its military, police, and intelligence apparatus, drawing inspiration from Western models of governance and law enforcement (Bickers, 2011, p. 64). The introduction of modern police forces, such as the Shanghai Municipal Police, which was established in 1854 under British control, exposed China to new surveillance techniques and practices, including fingerprinting, photography, and the use of telegraph for communication (Wakeman, 1995: 82). These innovations significantly enhanced the state's ability to monitor its citizens and maintain order (Bickers, 2011: 65).

The Republican era (1912-1949) saw further expansion of Western-inspired surveillance practices in China. Under the leadership of Chiang Kai-shek, the Nationalist government established the Central Investigation Bureau (CIB) in 1927, modeled after Western intelligence agencies such as the British MI5 and the American FBI (Sullivan, 2015, p. 45). The CIB, along with other Nationalist security organizations, employed various surveillance methods, including wiretapping, interception of mail, and the use of informants, to monitor and suppress political opponents and maintain control over the increasingly unstable Chinese society (MacFarquhar, Schoenhals, 2006: 100).

Meanwhile, the Chinese Communist Party (CCP), which was founded in 1921, also adopted Western surveillance practices to consolidate power and establish control over its territories. The CCP's intelligence and security apparatus, the Central Social Affairs Department (CSAD), drew inspiration from the Soviet Union's secret police, the NKVD, and the Comintern's intelligence network (Sullivan, 2015: 46). Through the CSAD and its local branches, the CCP employed a range of surveillance techniques, including infiltration, informants, and ideological monitoring, to identify and suppress potential threats to the communist movement (MacFarquhar, Schoenhals, 2006: 101).

In conclusion, the impact of Western influences on Chinese surveillance practices during the 19th and early 20th centuries was profound. The adoption of modern policing, intelligence, and communication technologies transformed China's surveillance capabilities and laid the foundation for the development of a comprehensive and sophisticated security apparatus in the People's Republic of China.

2.2. The People's Republic of China and the emergence of a modern surveillance state

2.2.1. The Mao era: ideological control and mass surveillance

The establishment of the People's Republic of China (PRC) in 1949 marked the beginning of a new era in Chinese surveillance, characterized by an emphasis on ideological control and mass surveillance (Brady, 2012: 21). Under the leadership of Mao Zedong, the Chinese Communist Party (CCP) aimed to reshape Chinese society in accordance with Marxist-Leninist principles and sought to maintain strict control over the population (MacFarquhar, Schoenhals, 2006: 102).

Mao's regime employed a wide range of surveillance techniques to monitor and suppress dissent, including the use of mass organizations, informants, and extensive propaganda campaigns (Brady,

2012: 22). The CCP's comprehensive system of neighborhood committees, work units, and rural collectives served as the foundation for this mass surveillance apparatus, enabling the state to keep a close watch on the daily lives and activities of its citizens (Meisner, 1999: 53). Furthermore, the party's widespread use of political campaigns, such as the Hundred Flowers Campaign and the Cultural Revolution, allowed it to identify and eliminate potential opposition, as well as reinforce its ideological control over the population (MacFarquhar, Schoenhals, 2006: 103).

The Mao era, therefore, witnessed the emergence of a modern surveillance state in China, with the CCP employing a combination of ideological indoctrination and mass surveillance to maintain its grip on power and shape Chinese society according to its vision.

2.2.2. Post-Mao reforms and the development of new surveillance technologies

Following Mao Zedong's death in 1976, China embarked on a series of economic and political reforms under the leadership of Deng Xiaoping. These reforms led to the modernization of China's surveillance apparatus and the adoption of new surveillance technologies (Tsui, 2003: 86). As the country opened up to the world, it gained access to cutting-edge technology and expertise that significantly enhanced its surveillance capabilities (Shambaugh, 2013: 212).

In the 1980s and 1990s, China began to develop and deploy advanced surveillance systems, such as closed-circuit television (CCTV) cameras, electronic eavesdropping equipment, and computer-based monitoring systems (Tsui, 2003: 88). These technologies allowed the state to keep a closer watch on its citizens and detect potential threats to its rule more effectively (Shambaugh, 2013: 213).

Additionally, the Chinese government invested heavily in its domestic security apparatus, establishing a new Ministry of Public Security in 1983 and expanding the role of its intelligence agencies (Tsui, 2003: 89). These developments, coupled with the increasing sophistication of China's surveillance technologies, laid the groundwork for the construction of the "Great Firewall" and the emergence of the modern Chinese surveillance state (Shambaugh, 2013: 214).

In conclusion, the post-Mao reforms facilitated the development of new surveillance technologies in China, enabling the state to enhance its control over the population and adapt to the challenges posed by a rapidly changing society and global environment.

3. The Great Firewall: China's Cyber Surveillance and National Security

3.1. The development and implementation of the Great Firewall

3.1.1. Objectives and motivations

The Great Firewall of China, formally known as the Golden Shield Project, is a comprehensive and sophisticated system of internet censorship and surveillance that was developed and implemented by the Chinese government in the late 1990s and early 2000s (Deibert et al., 2008: 453). The primary objective of the Great Firewall is to maintain the Chinese Communist Party's (CCP) control over the flow of information and ideas within the country, thereby ensuring social stability and safeguarding national security (MacKinnon, 2011: 32).

One of the key motivations behind the development of the Great Firewall was the Chinese government's recognition of the transformative potential of the internet, and its concern that the free flow of information could undermine the Party's ideological control over the population (Deibert et al., 2008: 454). In the wake of the 1989 Tiananmen Square protests and the subsequent collapse of the Soviet Union, Chinese leaders became increasingly aware of the importance of controlling the narrative and preventing the spread of dissenting ideas (Lagerkvist, 2010: 78).

Another important motivation for the implementation of the Great Firewall was China's desire to protect its economic and strategic interests in the rapidly evolving digital landscape (Segal, 2017: 110). As the country began to embrace globalization and integrate itself into the global economy, the Chinese government sought to leverage the internet as a tool for economic growth, while simultaneously shielding its domestic industries from foreign competition and preserving its technological sovereignty (MacKinnon, 2011: 33). The Great Firewall allowed the Chinese government to strike a delicate balance between these competing objectives, enabling it to harness the benefits of the internet without compromising its national security and social stability (Lagerkvist, 2010: 79).

Additionally, the development of the Great Firewall was driven by China's determination to counteract foreign influence and assert its independence in the face of perceived threats to its sovereignty (Segal, 2017: 111). Chinese leaders have long viewed the internet as a potential vector for foreign interference, and the implementation of the Great Firewall enabled the state to exert greater control over the digital domain and protect its national security interests (Deibert et al., 2008: 455).

In summary, the development and implementation of the Great Firewall were driven by a complex interplay of ideological, economic, and strategic motivations. By controlling the flow of information and ideas within the country, the Chinese government has been able to maintain its grip on power, protect its national security interests, and shape the development of the internet in accordance with its vision for a "cyber-sovereign" China (MacKinnon, 2011: 34).

3.1.2. Technical aspects and effectiveness

The Great Firewall employs a multi-layered approach to internet censorship and surveillance, combining various technical and legal mechanisms to effectively control the flow of information within China's digital borders (Deibert et al., 2008: 457). These technical aspects can be broadly categorized into four main components: IP blocking, DNS filtering, URL and keyword filtering, and deep packet inspection (DPI).

- IP Blocking: The Great Firewall blocks access to specific IP addresses associated with websites or services that are deemed to be politically sensitive or otherwise undesirable by the Chinese authorities (Qiu, 2013: 68). This includes popular foreign websites such as Google, Facebook, and Twitter, as well as domestic websites that are found to be in violation of Chinese censorship regulations (Deibert et al., 2008: 458).

- DNS Filtering: The Great Firewall also manipulates the Domain Name System (DNS) to prevent Chinese internet users from accessing blocked websites (Zittrain & Edelman, 2003: 712). By tampering with DNS queries, the system redirects users to alternative websites or displays error messages, effectively censoring access to the desired content (Qiu, 2013: 69).

- URL and Keyword Filtering: The system uses URL and keyword filtering techniques to block access to specific webpages or content based on predefined lists of prohibited terms or phrases (Deibert et al., 2008: 459). These lists are regularly updated to include new terms associated with political events, social issues, or foreign news stories that are deemed to be sensitive by the Chinese authorities (MacKinnon, 2011: 37).

- Deep Packet Inspection (DPI): The Great Firewall employs DPI technology to analyze and filter internet traffic in real-time, allowing the Chinese authorities to identify and block specific content or communications based on their content or metadata (Qiu, 2013: 70). This advanced surveillance technique enables the state to monitor and control a wide range of internet activities, including email, instant messaging, and social media (Deibert et al., 2008: 460).

The effectiveness of the Great Firewall has been the subject of considerable debate among scholars and policymakers, with some arguing that it represents a highly effective tool for controlling the flow of information within China, while others contend that it is increasingly vulnerable to circumvention by tech-savvy internet users (MacKinnon, 2011: 38). The system has undoubtedly been successful in blocking access to a wide range of foreign and domestic websites and content, as well as monitoring and controlling the online activities of Chinese citizens (Deibert et al., 2008: 461).

However, the Great Firewall is not without its limitations, and various methods have been developed to bypass its censorship mechanisms, including the use of virtual private networks (VPNs), proxy servers, and alternative DNS services (Zittrain, Edelman, 2003: 713). Moreover, the system's reliance on predefined lists of prohibited terms and phrases has led to the emergence of a dynamic "cat-and-mouse game" between Chinese internet users and the authorities, with users constantly inventing new slang, metaphors, and euphemisms to evade censorship (MacKinnon, 2011: 39).

In conclusion, the Great Firewall represents a complex and sophisticated system of internet censorship and surveillance, combining various technical and legal mechanisms to effectively control the flow of information within China's digital borders. While it has been successful in achieving many of its objectives, the system is not without its limitations, and its effectiveness is likely to be continually challenged by technological advancements and the ingenuity of Chinese internet users seeking to circumvent its censorship mechanisms (Qiu, 2013: 72).

Despite these challenges, the Great Firewall has undoubtedly played a significant role in shaping China's digital landscape and reinforcing the Chinese Communist Party's control over the flow of information and ideas within the country (Lagerkvist, 2010: 82). Its ongoing effectiveness will depend on the Chinese government's ability to adapt to new technological developments and respond to the evolving tactics of its citizens in their quest for greater online freedom (MacKinnon, 2011: 40).

In this context, it is important to recognize that the Great Firewall is not merely a technical infrastructure but also a manifestation of the broader political, economic, and ideological factors that underpin China's approach to internet governance and national security (Segal, 2017: 115). As

such, its effectiveness cannot be assessed in isolation, but must be considered in the context of the broader social, cultural, and political environment in which it operates (Deibert et al., 2008: 462).

Ultimately, the Great Firewall serves as a powerful reminder of the ways in which states can wield control over the digital domain in pursuit of their national security interests, as well as the inherent tensions and trade-offs that arise in the ongoing struggle between the forces of openness and control in the age of the internet (Lagerkvist, 2010: 84).

3.2. The role of the Great Firewall in China's national security strategy

3.2.1. Domestic control and stability

The Great Firewall plays a critical role in maintaining domestic control and stability in China by enabling the government to regulate the flow of information, suppress dissent, and shape public opinion in accordance with the ruling party's interests (Creemers, 2017: 553). By controlling access to politically sensitive content, the Chinese authorities are able to manage the narrative and minimize the spread of information that could potentially undermine the legitimacy of the Communist Party or instigate social unrest (Stockmann, Gallagher, 2011: 81).

One key aspect of this domestic control function is the suppression of dissenting voices and the monitoring of online activities to identify and neutralize potential threats to the state (King et al., 2013: 327). Through the use of advanced surveillance technologies, such as deep packet inspection and keyword filtering, the Great Firewall enables the Chinese authorities to detect and block content that is critical of the government or that promotes political activism, separatism, or other forms of dissent (Tsui, 2003: 65).

In addition to its censorship and surveillance capabilities, the Great Firewall also facilitates the shaping of public opinion by promoting state-approved narratives and restricting access to alternative sources of information (MacKinnon, 2012: 47). This is achieved through a combination of state-controlled media outlets, online propaganda efforts, and the manipulation of social media platforms to amplify the ruling party's message and marginalize dissenting voices (Han, 2015: 22).

The emphasis on domestic control and stability as a core objective of the Great Firewall reflects the Chinese government's broader national security strategy, which prioritizes the maintenance of political stability and social cohesion as essential prerequisites for economic development and international influence (Chase, Mulvenon, 2015: 245). By effectively controlling the digital

domain, the Great Firewall plays a pivotal role in safeguarding the Communist Party's hold on power and ensuring the continued stability of the Chinese state.

3.2.2. International implications and cyber warfare

The Great Firewall not only contributes to China's domestic control and stability but also has significant international implications, as it forms an integral part of the country's broader cyber warfare and national security strategies (Tsui, 2003: 67). By exerting control over the digital domain, China is able to engage in various forms of cyber espionage, information warfare, and influence operations aimed at advancing its strategic interests on the global stage (Lindsay, 2013: 511).

One key aspect of this international dimension is the use of the Great Firewall as a platform for conducting cyber espionage and gathering intelligence on foreign governments, corporations, and individuals (Hjortdal, 2011: 61). This includes the exploitation of vulnerabilities in foreign computer networks, as well as the monitoring of cross-border communications and internet traffic for valuable information and insights (Chase, Mulvenon, 2015: 248).

Furthermore, the Great Firewall plays a crucial role in China's information warfare capabilities, enabling the state to manipulate the flow of information in order to shape global perceptions and advance its strategic narratives (Creemers, 2017: 557). This includes efforts to counter negative portrayals of China in the international media, as well as initiatives to promote Chinese soft power and influence through the dissemination of state-sanctioned content and narratives (Han, 2015: 25).

Finally, the Great Firewall also serves as a defensive mechanism for protecting China's critical infrastructure and digital assets from cyber threats and foreign interference (Lindsay, 2013: 512). By creating a heavily controlled and monitored digital environment, the Chinese authorities are able to minimize the risks posed by cyber attacks, data breaches, and other forms of digital disruption that could potentially undermine the country's national security and economic stability (Hjortdal, 2011: 63).

In conclusion, the international implications of the Great Firewall extend far beyond its role as a tool for domestic censorship and surveillance, as it forms an integral part of China's broader cyber

warfare and national security strategies aimed at advancing its strategic interests on the global stage.

4. The Ethics and Future of Surveillance in China

4.1. Balancing national security and individual privacy

4.1.1. Ethical debates surrounding surveillance

The extensive use of surveillance and censorship by the Chinese government has sparked heated ethical debates concerning the balance between national security and individual privacy. Critics argue that the Chinese authorities' approach to surveillance infringes on fundamental human rights, such as the rights to freedom of expression and privacy, while proponents assert that these measures are necessary to maintain social stability and national security in a rapidly evolving digital environment (Qiang, 2011: 302).

One of the central ethical concerns surrounding China's surveillance practices is the potential for abuse of power by the state and the lack of transparency and accountability in the implementation of these measures (Zuboff, 2019: 155). Critics argue that the pervasive surveillance apparatus in China enables the authorities to arbitrarily target individuals and groups based on their political beliefs, ethnicity, or social status, leading to a culture of fear and self-censorship among citizens (MacKinnon, 2012: 51). Furthermore, the lack of independent oversight and judicial review of surveillance practices raises concerns about the potential for unchecked state power and the erosion of democratic values (Bennett, Raab, 2006: 283).

Another key ethical issue in the debate over surveillance in China is the impact on individual privacy rights. The extensive collection, analysis, and storage of personal data by the Chinese authorities, often without the knowledge or consent of citizens, raise concerns about the erosion of privacy as a fundamental human right and the potential for misuse of this data (Lyon, 2018: 104). In addition, the use of advanced surveillance technologies, such as facial recognition and artificial intelligence, has raised questions about the potential for mass surveillance and the creation of a 'surveillance society' in which individuals are constantly monitored and tracked (Zuboff, 2019: 159).

On the other hand, proponents of China's surveillance practices argue that they are necessary for maintaining national security and social stability in the face of various internal and external threats,

such as terrorism, separatism, and cybercrime (Qiang, 2011: 306). They contend that the Chinese government's approach to surveillance is justified by the need to protect the state and its citizens from these threats and that the measures employed are proportionate to the risks involved (Creemers, 2017: 559).

In this context, some scholars and policymakers argue that the ethical debate over surveillance in China should be framed not as a binary choice between national security and individual privacy but rather as a complex balancing act that requires careful consideration of the trade-offs and consequences involved (Bennett, Raab, 2006: 285). This perspective emphasizes the importance of evaluating the effectiveness, proportionality, and legitimacy of surveillance practices in relation to the specific threats and challenges faced by the Chinese state and its citizens.

4.1.2. Ethical debates surrounding surveillance

The Chinese government's approach to privacy has evolved over time, reflecting a complex interplay of cultural, political, and legal factors. While China has made some strides in recent years to establish a legal framework for the protection of personal data, its approach to privacy remains fundamentally different from that of Western liberal democracies, with a stronger emphasis on collective interests and national security over individual rights (Laidlaw, 2015: 141).

One key aspect of the Chinese government's approach to privacy is the prioritization of state interests over individual rights. In this context, privacy is often viewed as a secondary concern to national security, social stability, and economic development, with surveillance measures justified as necessary for the protection of the state and its citizens (Qiang, 2011: 308). This perspective is rooted in the Chinese Communist Party's emphasis on collective interests and social harmony, as well as its authoritarian political system, which prioritizes the maintenance of power and control over individual freedoms (Laidlaw, 2015: 143).

Despite this emphasis on state interests, China has made some progress in recent years in establishing a legal framework for the protection of personal data. In 2017, the country enacted the Cybersecurity Law, which includes provisions relating to the collection, storage, and use of personal information, as well as requirements for data protection and breach notification (Zhang, 2017: 229). Additionally, in 2020, China introduced the Personal Information Protection Law (PIPL), which further strengthens the protection of personal data and imposes stricter obligations on data processors and controllers (Yeung, 2020: 17).

However, these legal developments should be viewed within the broader context of China's approach to privacy, which remains heavily influenced by the state's emphasis on control and surveillance (Laidlaw, 2015: 145). Despite the introduction of new data protection laws, the Chinese authorities continue to engage in widespread surveillance practices, often with limited transparency and oversight, raising concerns about the effectiveness of these legal protections in practice (Zhang, 2017: 231).

Moreover, cultural factors also play a role in shaping China's approach to privacy, with traditional Confucian values emphasizing social harmony and collective interests over individual rights (Laidlaw, 2015: 147). This cultural context may contribute to a greater acceptance of surveillance and state intervention in the private sphere, as well as a lower expectation of privacy among Chinese citizens compared to their Western counterparts (Yeung, 2020: 19).

In conclusion, the Chinese government's approach to privacy reflects a complex interplay of cultural, political, and legal factors, with a strong emphasis on state interests and collective values over individual rights. While recent legal developments have sought to establish a framework for the protection of personal data, the effectiveness of these measures remains limited by the broader context of state control and surveillance.

4.2. Ethical debates surrounding surveillance
4.2.1. Ethical debates surrounding surveillance

As China continues to develop and refine its surveillance capabilities, emerging technologies and trends are likely to shape the future of surveillance in the country's national security strategy. In particular, advancements in artificial intelligence (AI), facial recognition, biometrics, and big data analysis are expected to play a significant role in enhancing China's surveillance apparatus (Sacks, 2018: 42).

AI is a key technology driving the evolution of surveillance in China, as it enables the processing and analysis of vast amounts of data in real-time, allowing for more efficient monitoring of individuals and groups (Kania, 2019: 77). The application of AI in surveillance systems can enable the identification of patterns and trends, as well as the prediction of potential threats, thus providing valuable intelligence for national security purposes (Webster, 2018: 1-5).

Facial recognition technology, which has already been widely deployed in China, is expected to become even more sophisticated in the future, with advancements in deep learning algorithms and

3D modeling potentially increasing its accuracy and effectiveness (Mozur, 2018). This technology allows for the identification and tracking of individuals in real-time, making it a powerful tool for both mass surveillance and targeted monitoring (Lyon, 2018: 108).

Biometric technologies, such as fingerprint, voice, and iris recognition, are also expected to play an increasingly important role in China's surveillance strategy. These technologies offer the potential for more reliable and secure identification of individuals, which can be used to enhance access control and authentication systems, as well as support surveillance efforts (Whitley, Hosein, 2010: 30).

The growing trend of big data analysis in surveillance is another factor shaping the future of China's national security strategy. The ability to collect, store, and analyze large amounts of data from diverse sources, such as social media, telecommunications, and financial transactions, provides the Chinese authorities with a wealth of information for monitoring and predicting potential threats (Sacks, 2018: 45).

In summary, emerging technologies and trends are expected to have a significant impact on the future of surveillance in China's national security strategy. Advancements in AI, facial recognition, biometrics, and big data analysis will likely enhance the capabilities of the country's surveillance apparatus, enabling more effective monitoring and prediction of potential threats.

4.2.2. Implications for global security and international relations

The advancements in China's surveillance capabilities and their integration into the country's national security strategy have significant implications for global security and international relations. As China's surveillance apparatus becomes increasingly sophisticated, concerns about the potential for its use in domestic repression and international espionage have grown among other nations (Strüver, 2018: 123).

One major concern is the potential for China's surveillance technologies to be exported to other countries, particularly those with authoritarian governments. This could enable these countries to establish more pervasive surveillance systems, thereby threatening individual privacy and civil liberties on a global scale (Segal, 2019: 50). Moreover, the diffusion of Chinese surveillance technology may contribute to the normalization of mass surveillance practices worldwide, as governments observe and emulate the capabilities of the Chinese state (Haggart, 2014: 93).

China's growing cyber capabilities also have implications for international security, as cyber espionage and potential cyber attacks could target critical infrastructure and sensitive data in other nations (Lindsay, 2013: 5). This raises concerns about the vulnerability of other countries to Chinese cyber operations and the potential for escalation in cyberspace, which could lead to conflict in the physical domain (Buchanan, 2016: 62).

Furthermore, China's surveillance capabilities may have an impact on international relations by shaping the country's foreign policy. As the Chinese government gains a greater ability to monitor and predict potential threats, it may become more assertive in its dealings with other countries, particularly in regions where it perceives its national interests to be at risk (Shambaugh, 2013: 89).

In conclusion, the development and deployment of advanced surveillance technologies in China's national security strategy have significant implications for global security and international relations. These technologies have the potential to shape the behavior of both the Chinese state and other countries, as they navigate the complexities of an increasingly interconnected world.

5. Conclusion

This article has provided a comprehensive historical analysis of surveillance in China's national security, from the ancient construction of the Great Wall to the modern implementation of the Great Firewall. It has highlighted the evolution of surveillance in China over time, demonstrating how the country has adapted various surveillance techniques and strategies to address changing threats and maintain domestic stability. Throughout China's dynastic history, surveillance has played a critical role in maintaining control and ensuring national security. The findings of this article contribute to a deeper understanding of the role of surveillance in China's national security strategy and provide valuable insights into the motivations and objectives driving the country's surveillance apparatus.

The analysis has also shed light on the ethical debates surrounding surveillance in China, particularly with regard to the balance between national security and individual privacy. As China continues to develop and refine its surveillance capabilities, it is crucial for policymakers, scholars, and international observers to consider the potential implications for civil liberties and human rights both within China and globally.

Given the rapid pace of technological advancements and the evolving nature of global security threats, it is essential for future research to continue examining the role of surveillance in China's national security strategy. There are several areas where further investigation could yield valuable insights. For example, understanding the potential consequences of exporting Chinese surveillance technologies to other countries, particularly those with authoritarian governments, and examining the risks to individual privacy and civil liberties in recipient countries are critical areas of research. Additionally, future research could explore the social and psychological effects of pervasive surveillance on individuals living within China, including the potential for self-censorship, conformity, and the erosion of trust in interpersonal relationships.

Another area of interest is the involvement of private companies in the development and deployment of surveillance technologies in China, as well as the potential for public-private partnerships to shape the future of surveillance and national security in the country. Finally, comparative studies could help contextualize China's surveillance practices and national security strategies within a broader global context. This may include examining similarities and differences in surveillance approaches between China and other countries, as well as exploring potential lessons and best practices that can be learned from these comparisons.

In conclusion, this article has provided a comprehensive analysis of the historical development and current state of surveillance in China's national security strategy. As China continues to evolve and adapt its surveillance capabilities, it is crucial for future research to keep pace with these developments and explore their implications for global security and international relations.

Conflict of Interest Statement:

The author declares that there is no conflict of interest.

Acknowledgement Statement:

I would like to thank all scholars who contributed to the preparation of the study.

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