## Humanities & Social Sciences Communications



### **ARTICLE**

https://doi.org/10.1057/s41599-024-02898-6

OPEN



1

# Impact of Western transmission of the Peking Gazette on Late-Qing China's information security

Ling Chen<sup>1,2</sup> & Lianjian Deng<sup>3⊠</sup>

The Peking Gazette, as a widespread and effective medium for the dissemination of important information from the Qing government, played a significant role in the internal governance of the empire. In the 19th century, Western missionaries, diplomats, and businessmen in China respected the authenticity and authority of the content in the Gazette, and carried out large-scale translations of political, social, cultural, economic, and military-diplomatic information into English. Western transmission of the Peking Gazette to some extent promoted cultural exchanges between China and the West and also provided the Western powers, which were in a period of expansion, with a wealth of political and military intelligence. The internally focused Qing dynasty was initially unaware of the Western transmission of the Peking Gazette and later took a series of doomed measures, leading to severe damage to national information security and political safety. The historical lessons of the Qing empire are enlightening for countries worldwide today: there is a need not only for openness and transparency but also for balancing the relationship between information disclosure and national security.

<sup>&</sup>lt;sup>1</sup> School of Public Policy and Management, Guangxi University, Nanning, China. <sup>2</sup> School of Economics and Management, Nanning Normal University, Nanning, China. <sup>3</sup> School of Foreign Languages, Guangxi University, Nanning, China. <sup>™</sup>email: dlj5787@gmail.com

#### Introduction

hroughout pre-modern engagements with the West, China found itself inadvertently drawn into the currents of globalization. On one hand, the West catalyzed China's journey towards modernity by founding schools, newspapers, publishing houses, and hospitals, among other infrastructures; on the other, Western sinologists translated numerous Chinese texts, thereby integrating Chinese wisdom and data into the global sphere, marking a pivotal chapter in pre-modern Sino-Western interactions. The English translations of some literature, notably the Peking Gazette, played a crucial role in shaping the dynamics of interaction between China and the West during that era.

Originating in the Tang dynasty (618-907), the Dibao 邸报<sup>1</sup> was a key channel that was used by successive Chinese dynasties for the large-scale and continuous public dissemination of important political information. It was published by key departments of the central government, and the imperial edicts and memorials it transmitted were printed verbatim without any omission or alteration, making the political information it contained highly authoritative. This fidelity met the need for the long-distance transmission of central government decrees across the vast expanse of the empire. In the Qing dynasty (1636-1912), the Dibao, better known as Jingbao 京报 (Peking Gazette), continued under the systems established during the Song (960–1279) and Ming (1368-1644) dynasties, with even more robust institutions (Liu, 2014, p. 41, 90, 95). The Peking Gazette maintained its function of disseminating various kinds of political information and played a significant role in daily government adminispolitical-cultural information circulation, and construction. The Gazette circulated within all levels of the Qing government administration and served as a primary channel for officials and gentries to access internal government news and probe political trends. Moreover, the distribution speed of the Gazette was much faster than that of official documents. Thus, it was highly valued by bureaucrats and had a broad social impact, making it a unique and valuable medium for the Qing government to make public information disclosures (Deng & Chen, 2022, p. 3). Prior to the 19th century, except for some excerpts translated by the French Jesuit missionary Cyrus Contancin in the first half of the 18th century to promote the Chinese emperor's wisdom and greatness,<sup>2</sup> the Gazette remained a medium effective only within China, playing a crucial role in maintaining Qing dynasty rule.

The story was different in the 19th century when Western powers entered China on an unprecedented scale. At that time, countries such as Britain and the United States urgently desired to expand trade with China and spread Christianity, and naturally, they were eager to understand the true state of China in all its aspects. Diplomats, businessmen, and missionaries in China were very aware of the authoritative nature of the Peking Gazette. Consequently, they went to great lengths to collect the Gazette through various channels and translated a large amount of its content into English, bringing it into the global public domain. Overall, the translation of the Peking Gazette into English, initiated by Robert Morrison in the early 19th century, had a different purpose than the translations by Contancin, who aimed to convey "information" about the Chinese emperor's excellence. Instead, the 19th-century translations were mostly aimed at acquiring "intelligence" that could serve the interests of the translators' own countries (Deng & Chen, 2022, p. 5).

Until the First Opium War, the Qing-dynasty rulers were unaware that Westerners had already taken an interest in the Peking Gazette and had been translating and reprinting it. Consequently, they continued to use the Gazette in the usual manner to publish internal information. Given this context, the Peking Gazette served as a medium for the Qing government to

disseminate a wealth of politically sensitive intelligence internally. Once this sensitive information was translated and utilized on a large scale by the West, what kind of impact did this have on Late-Qing China?

According to a review of the literature, no scholars have vet attempted to answer this question. The literature on government information disclosure and information security mainly focuses on the conflict and coordination between contemporary disclosures and information confidentiality (Kerr, 2012; Davisa, 2011; Mei & Chen, 2023), the security risks of information disclosure (Jaffer, 2010; Gray & Citron, 2013; Xiao & Su, 2022), and the necessity of information confidentiality for national security (Pozen, 2005; Fuller, 2017). Most authors suggest maintaining a balance between information disclosure and national security from institutional (Wells, 2006; Zheng, 2023), technological (Li et al., 2023), and personnel (Wu et al., 2023) perspectives. Only a few studies focus on government information disclosure and security during the Qing dynasty, such as the management of military information security (Wei & Xiong, 2021) and the memorial system (Zhu, 2019). However, there is no related academic research on the impact of the transmission of the Peking Gazette to the West on information security.

Academic research on the transmission of the Peking Gazette to the West began with Britton's (1933) book The Chinese Periodical Press (1800-1912). Closely related to the theme of this paper, Standaert (2020) and Wu (2015) believe that the Chinese Peking Gazette entered the global public domain as early as the 18th century and had a certain impact in Europe. Mokros (2021) reported on the political and administrative functions of the Peking Gazette, suggesting that they offer insights into the channels of information for the central government's affairs and the ways of achieving policy objectives at that time. Focusing on the role of the Gazette in Sino-Western diplomatic relations, Yin (2005) and Wang, Wang (2014) identified the importance of the Gazette in cross-cultural communication. Wang (2012), Jin and Li (2016), and Zhao (2018) recognized the value of the Peking Gazette as intelligence, considering it as one of the best channels for the West to obtain political intelligence on China.

A comprehensive review of existing research shows a focus on the content, form, cultural function, and readership of the Peking Gazette. However, there is a lack of specialized research on the information security issues triggered by the transmission of the Gazette to the West. There has been no attempt to link the transmission of the Peking Gazette with national information security in Qing Dynasty China, nor has there been an effort to derive historical lessons from problems with historical information security. The International Organization for Standardization (ISO) defines information security as the "preservation of confidentiality, integrity, and availability of information"<sup>5</sup>. Following the ISO definition, we propose an operational definition in this article: information security means that the entire information system of a country runs stably and smoothly, without being threatened or even destroyed by internal or external disturbances. As a medium of government information disclosure during the Qing dynasty, the Peking Gazette was closely linked to information security. Its transmission to the West posed significant risks to the information and even national security of the Qing dynasty (Deng & Chen, 2022, pp. 7-8). This paper presents the global dissemination of the Peking Gazette in order and a meticulous analysis at a micro level of how it entered the global public domain. Exploring how the Western transmission of the Gazette threatened Chinese information security, this paper reveals the true nature of the Qing government's policy of isolation and attempts to provide a historical mirror for the construction of contemporary global information security.

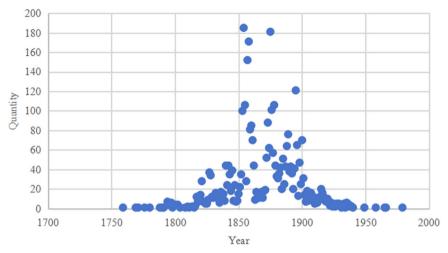


Fig. 1 The coverage of the Peking Gazette in Gale.

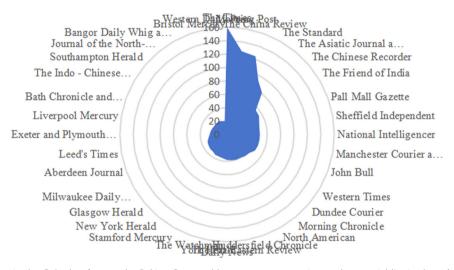


Fig. 2 A list of publications in the Gale that feature the Peking Gazette (due to space constraints, only a partial list is shown).

#### The dissemination of the Peking Gazette to the global public

Mokros (2021, p. 131) correctly notices that "in the Englishlanguage press, a common term for the court periodical emerged, Pekin(g) Gazette". We searched "Pekin Gazette Not Peking Gazette" and "Peking Gazette Not Pekin Gazette" in the Gale Primary Sources, <sup>6</sup>finding 3889 related documents, including books, manuscripts, newspapers, journals, and archival records. From the available materials, it is evident that Western interest in the Peking Gazette was continuous from the 18th century to the end of the 20th century (see Fig. 1). There are over a hundred English-language publications that have mentioned or reprinted the Peking Gazette (see Fig. 2), with at least eight of these publications featuring more than 50 articles from the Gazette (see Fig. 3). In addition to the texts contained in the Gale Primary Sources database, there are several other important books and publications that also contain numerous reports from the Peking Gazette (see Table 1). According to Zhao (2018), The North-China Herald published translations of 20,000 Gazette reports, and The Chinese Repository carried more than 80 such reports.

Using the above data as a clue, we investigated related literature to obtain the historical outlines of the transmission of the Peking Gazette to the West. As early as the first half of the 18th century, Contancin discovered that reading the Peking Gazette was particularly educational for Westerners in China (Du, 2001, p. 241). As a result, he read extensively and made extracts and

translations. These translations quickly circulated and gained significant attention in Europe. Some of the content was reprinted as early as 1730 by the prestigious French journal *Journal des Scavans*, and some of the translated excerpts were referenced by Enlightenment thinkers such as Voltaire, Quesnay, and Montesquieu (Standaert, 2020).

At the end of the 18th century, following the Macartney Embassy to China, the Peking Gazette began to enter the Englishspeaking world. Staunton's (1797, pp. 296-297) An Authentic Account of an Embassy from the King of Great Britain to the Emperor of China is probably the earliest English book to mention the Peking Gazette, discussing its nature and content. Entering the 19th century, with the expansion of trade between the West and China and the spread of Protestant Christianity in China, Westerners began a new chapter in translating and utilizing the Peking Gazette. Especially after the Opium Wars, there was a surge in Western demand for intelligence from China, leading to an unprecedented popularity for the translation and introduction of the Gazette. Beginning in 1809, Morrison (1815, pp. 11-38), commissioned by the East India Company, continued to translate the Gazette for over twenty years. His book Translations from the Original Chinese includes eight Peking Gazette articles. The Indo-Chinese Gleaner, as the earliest English publication to record the Peking Gazette, almost entirely sourced its "Miscellany" "Journal of Occurrences" and "Indo-Chinese News"



Fig. 3 A list of publications in the Gale that contain over 50 articles from the Peking Gazette.

Table 1 Books and journals with English translations of the Peking Gazette (not covered by Books	Journals
Staunton G. An Authentic Account of an Embassy from the King of Great Britain to the Emperor of China. 1797 Morrison R. Translations from the Original Chinese, with Notes. 1815 Staunton GT. Narrative of the Chinese Embassy to the Khan of the Tourgouth Tartars, in the Years 1712, 13, 14 & 15. 1821	The Chinese Repository. 1832–1851 Chinese Courier and Canton Gazette. 183 Canton Register. 1835
13. 1821 Davis JF. The Chinese: A General Description of that Empire and its Inhabitants. 1836 Williams SW. The Middle Kingdom. 1848 Wade TF. Note on the Condition and Government of the Chinese Empire in 1849. 1850	Canton Press. 1835 The China Mail. 1845–1871 The North-China Herald. 1850–1941 Foochow Advertiser. 1867 The Cycle. 1870–1871

sections on Chinese affairs from Morrison's translations of the Gazette. Morrison also frequently included translations from the Gazette in his communications with the London Missionary Society and the American Board of Commissioners for Foreign Missions (Morrison, 1821, pp. 197–198), as well as in his personal diaries and letters to George Thomas Staunton, Milne, and others (Morrison, 1839, p. 2). Later, John Robert Morrison (1838, p. 226) continued his father's work in translating the Gazette, stating that "A regular perusal of the Peking Gazette throws much light on many points in the mechanism and policy of the Chinese government". Staunton (1821, pp. 258–330) was also among the earliest to translate the Gazette into English, including 40 translated reports in the Narrative of the Chinese Embassy to the Khan of the Tourgouth Tartars, in the Years 1712, 13, 14 & 15.

In The Chinese Repository founded by Bridgman, there was a regular column "Journal of Occurrences" featuring news about Chinese affairs, all of which were excerpted and translated from the Peking Gazette (Morrison, 1832, pp. 78-80). The North-China Herald published over 700 translated articles on the Taiping Rebellion and Shanghai affairs from the Peking Gazette between 1850 and 1867. In 1872, Wade (1873, pp. 38-44), the British then-Minister Plenipotentiary in China, published several articles in The China Review observing current Chinese affairs and frequently cited the Peking Gazette to support his views. The British diplomat and renowned sinologist Mayers (1874, pp. 13-18) published an extensive article, introducing five aspects of the Peking Gazette: distribution channels, source materials, publication models, official control, and historical origins. This clearly demonstrates that the tradition of using the Peking Gazette to obtain information on Chinese government affairs was highly valued by Western diplomats stationed in China.

In fact, "Gazettes remained the paramount source for Europeans intrigued by contemporary Chinese politics through the nineteenth century" (Mokros, 2021, p. 116). Looking back at the history of the transmission of the Peking Gazette to the West, two notable features stand out. First, English-language newspapers were the primary channel for the dissemination of the Gazette in the West. Second, the participants in the translation of the Gazette formed a vast group, including missionaries, diplomats, merchants, and sinologists. It was precisely because of the widespread nature of newspaper distribution and the diverse identities and backgrounds of the translators that rich information about various aspects of China was able to enter the global public domain and spread broadly.

According to the Gale, the content of the Qing dynasty Peking Gazette transmitted to the West encompassed a large amount of data, such as the emperor's lifestyle, royal dynamics, laws and regulations, court rituals, social customs, the virtues of filial piety and womanhood, official assessments, disaster relief efforts, commendations from the Ministry of Rites, agricultural development, and job adjustments. The domains of the publicized content can be categorized into political information, social information, cultural information, economic information, and military and diplomatic information<sup>7</sup> (see Table 2).

In terms of content, political information was a focal point of the Peking Gazette made publicly available globally. This primarily included royal dynamics, imperial edicts, appointments and dismissals of court officials, and government governance. Military information also constituted a significant portion, mainly encompassing Sino-Western conflicts, local military and civilian uprisings, and foreign policies. Economic, diplomatic, and social information was also covered, mainly reflecting the diverse

Categories of	Subcategories	Themes	Journals or newspapers	Article title
information		·		
Politics	Governance	Piracy control	<i>The Time</i> s (No. 33116, Saturday, Sept. 13, 1890)	Piracy in China
		Governance of Tibet	Sheffield Daily Telegraph (No. 15134,	China and the Tibet
			Wednesday, Jan. 13, 1904)	Expedition
		Riots suppression	The Asiatic Journal and Monthly Register for Revitish India and its Donardonnias (v.ol. 24, No.	China
			139, Sunday, Jul. 1, 1827, p. 98-99)	
		Grassroots guidance	The Asiatic Journal and Monthly Register for	China
			British India and its Dependencies (vol. 26, No.	
		Boform of administrative	104, Aug. 1, Wednesday, 1838, p 223) Edinburgh Econica Moure (No. 10472	to princylow od T
		reform of administrative institutions	Editibulgit Evetifity News (NO: 1047.5) Thursday, Nov. 8, 1906. p. 3)	China
	Royal family	Education of emperor's sons	The Times (No. 30971, Wednesday, Nov. 7,	The present emperor of
			1883)	China
		Demotion of the crown Prince	York Herald (No. 5542, Thursday, Nov. 12,	Degradation of Prince
		200000000 04+ to 4+1000	18/4, p 3) The Bootist Moorains (20) 8 Seturday, Nov. 1	Kung Tho Emografi
		וופסנון סן נוופ פוווספוסוט	118 Buplist Muguzine (VOI. 6, Saturday, NOV. 1, 1845, p 574)	בוו ליבו
	Political system	Official punishment system	Manchester Courier and Lancashire General	The latest imperial edict
			Advertiser (vol.77, No. 13883, Wednesday,	
			May 8, 1901, p 10)	
		Personnel appointment system	Leicester Chronicle (vol.75, No. 3870,	France and China
			Saturday, Apr. 18, 1885, p 3)	
		Criminal punishment system	The Asiatic Journal and Monthly Register for	Chinese legislation
			British India and its Dependencies (vol. 28, No.	
			164, Saturday, Aug. 1, 1829, p 211)	0
	Officials	Li Hongzhang's illness	Daily Inter Ocean (vol. 18, No. 42, Sunday,	LI Hung Chang's Illness
		Officials' voal actatas	May 5, 1889, p 10)   The China Deview (vol 15 No 1 Int-Aug	2.
		כווכומוט וכמו פטומופט	186, p 54)	sallan)
Social affairs	Public concerns	The death of Confucius	The Times (No. 28876, Tuesday, Feb. 27,	The heir of Confucius
			1877)	
		Death of the Chinese emperor	Yorkshire Gazette (vol. 43, No. 2196, Saturday,	Births, deaths, marriages
			Oct. 19, 1861, p 3)	and obituaries
		Population of China's provinces	National Intelligencer (vol. 5, No. 1439,	The population of China
			Tuesday, Aug. 19, 1817)	- -
		Eartnquake disaster situation	National Intelligencer (VOI. 24, INO. 7201,	I nere nas been an
			Friday, Mar. 11, 1836)	awful earthquake in
		: :		China
		Shandong famine situation	Kaleigh Kegister (vol. 55, No. /, Wednesday, Nov. 30, 1853)	ramine in China
	Public welfare	The move of a Chinese	The Conareaationalist (vol. 36 and 59, No. 24.	Chinese benevolence
	undertaking	philanthropist	Thursday, Jun. 12, 1884, p 2)	
	Public emergency	Government response to famine	Western Daily Press (vol. 40, No. 6263,	The Chinese
	early warning	strategies	Friday, Jun. 21, 1878, p 3)	government and the
				famine

Table 2 (continued)				
Categories of information	Subcategories	Themes	Journals or newspapers	Article title
Culture	Ancient traditional customs	Chinese folk stories	Manchester Courier and Lancashire General Advertiser (vol. 50, No. 5655, Saturday, Dec. 26, 1874, p. 4)	A Chinese love story
		Chinese funeral etiquette	The China Review (vol. 7, No. 5, Mar-Apr, 1879, p. 351)	Bidens, mourning etiquette
		Chinese feudal superstition	Arkang Gazette (vol. 61, No. 66, Saturday,	Childish Chinese
		The emperor pray for heaven	May 5, 1024, P. 6) The Asiatic Journal and Monthly Register for British India and its Dependencies (vol. 21, No. 82, Saturday, Ort. 1, 1836, p. 86–87)	Effect of the emperors
Economy	Economic infrastructure	Railway construction in China	Manchester Courier and Lancashire General Advertiser (vol.72, No. 12467, Friday, Oct. 23,	Railway construction in China
	Actual economic condition	Hong Kong tea price changes	Leed's Times (vol. 23, No. 1285, Saturday, Oct. 31, 1857, po. 100, 20057 Times (vol. 2005)	China
		Crima's Toreign deor Tax projects in China	Morning Post (100. 32957, 1 uesday, Feb. 12, 1878, p 6)  The Far-Eastern Review (vol. 11, No.11, Apr. 1915, p. 461)	China's revenue increasing
Military and diplomat	War between China and the West	The Chinese army evacuated Rorder conflict between China	Frist, p. 407, France and China (No. 9912, Monday, Apr. 20, 1885) Cheltenham Chronicle (vol. 36, No. 2471	Dundee courier
		and Russia The British army entered Tibet	Traces of the control	Chinese and Russians British mission to Tibet
	Chinese and Western exchanges	Members of the British mission stationed outside China	The Watchman and Wesleyan Advertiser (vol. 13. No. 671, Wednesday, Nov. 10, 1875, p. 360)	The Chinese Mission to England
		Burmese emissaries come to China	The Asiatic Journal and Monthly Register for British India and its Dependencies (vol. 19, No. 114, Wednesdav, Jun. 1, 1825, p. 853–854)	Burmese embassy
		The Chinese sent Western emissaries back home	The Asiatic Journal and Monthly Register for British India and its Dependencies (vol. 36, No. 142, Friday, Oct. 1, 1841, p 191)	Review of Eastern news
		The Chinese government has allowed Westerners to conduct religious activities The Qing government exchanged etiquette with Western officials	The Times (No. 33442, Tuesday, Sept. 29, 1891)  Bury and Norwich Post (No. 4868, Tuesday, Oct. 12, 1875, p.5)	The Chinese Government on Foreign Missionaries Great Britain and China

aspects of Chinese society. Hence, the Peking Gazette held unique value in aiding Westerners in exploring and understanding the policies and attitudes of the Qing emperors, the thoughts and perspectives of officials, and significant political, sociocultural, and diplomatic activities in the Qing empire during the 19th century.

## Impact of the Western transmission of the Peking Gazette on Late-Qing China's information security

After the Peking Gazette fell into the hands of Westerners, it became an important source of intelligence. For instance, in the 1840s, Gutzlaff wrote several political reports based on the Gazette news, aiding the British Foreign Office in understanding the Qing royal family, official system, and tributary relationships. Westerners also used the Peking Gazette to gather military intelligence. During the First Opium War, some Westerners in China systematically acquired military intelligence through the Gazette, conveying trends in Qing military decisions to the British, including strategic and tactical decisions, military orders, official reassignments, and personnel deployments. In the Eastern Zhejiang Battle in 1842, the British army learned in advance about the Qing government's stance on "war or peace". Before Yi Jing 奕经, the newly appointed Chief-commander, arrived in Zhejiang, the British were already aware of the Qing government's intentions and prepared accordingly. Moreover, the British army gathered information from the Peking Gazette about commanders such as Yi Jing and Wen Wei 文蔚, and key generals such as Liu Yunke 刘韵珂 and Yu Buyun 余步云, including their personalities, styles, and tactics. They also obtained crucial intelligence on the basic deployment, tactical planning, army provisioning, and the planned timing of the Qing army offense in the Eastern Zhejiang Battle, thereby formulating a highly targeted plan for engagement (Jin & Li, 2016, p. 201). In addition to this direct intelligence, the British army also acquired "indirect intelligence" through translated Gazette. John Robert Morrison and others had collected and compiled a series of articles about Chinese government politics from the Peking Gazette, organizing detailed lists of central and local officials to assess the Qing court's political and military policy trends. Articles about the Chinese government originally contained reasonable amounts of public information, but after processing and analysis, these articles became strategically valuable intelligence. As a matter of fact, from the beginning of the 19th century, the Peking Gazette shifted from being an "information channel" to an "intelligence medium" from the Western perspective. The transmission of the Gazette meant that "in the nineteenth century, the reach of the Qing Gazette, called the Peking Gazette by foreigners, was unprecedented" (Mokros, 2021, p. 4), allowing global readers to glimpse Qing political dynamics, strategic information, and military intelligence. The Peking Gazette served as a unique source of intelligence for the Western powers in their intercourse with China. The direct or indirect military intelligence provided by the Gazette played a pivotal role in the tragic outcome of the Qing dynasty's defense of the three eastern Zhejiang cities. It can be said that the Western transmission of the Gazette created favorable conditions for Western diplomatic strategy and military operations. Correspondingly, the covert actions from external sources repeatedly placed the Qing government at a disadvantage in diplomatic affairs, resulting in a series of catastrophic military defeats.

"Information is a form of power and authority related to security, and the effective operation of the Qing dynasty government depended on control over information" (Kuhn, 1990, p. 77). For Western countries, controlling the Peking Gazette meant increasing their influence in China. After the Second Opium War, when some Western diplomats discovered that Qing officials engaged in "backdoor operations" and "untrustworthy behavior"

in diplomatic affairs, they took special measures to force the Qing court to publicly disclose the details of negotiation incidents, demanding that related important information be published in the Peking Gazette. For example, in 1858, France, in the Additional Articles to the Treaty of Tientsin, demanded in treaty terms that the removal of Zhang Mingfeng 张鸣凤, the county magistrate of Xilin, Guangxi province, be made public. It was explicitly stated that "once the county magistrate of Xilin was dismissed, the matter should be communicated to the French Minister, and the reasons for the dismissal should be fully recorded in the Peking Gazette" (Qi et al., 2014, 3, vol.28, p. 1034). The British, in the 1860 Treaty of Peking, stipulated in the eighth additional article that, after the exchange of the original Treaty of Tientsin in Beijing, the emperor of China must "issue an edict to all provincial governors and officials outside Beijing to circulate and publish this original treaty and the additional treaty in the streets", and only after the edicts were received in each place, would the British withdraw the troops previously stationed there (Qi et al., 2014, 7, vol. 67, p. 2506). In the 1870s, the British even proposed that the Treaty of Tientsin be published in the Peking Gazette (Union, 1875, p. 2).

Similarly, during the Boxer Rebellion (1899–1900), to suppress secret societies and crack down on Chinese civilian organizations, Western countries also demanded that the Qing court publicize in the Peking Gazette some decrees condemning "anti-Christian societies in Shandong and Chihli", stating that "the public should obey the judgments of officials" (Landor, 1901, pp. 44-48), declaring "the complete suppression of secret societies" and warning that "harboring members of societies is a serious violation of the law" (Smith, 1901, pp.181-182, 191). Additionally, British and French diplomats drafted "imperial edicts" that met their own demands, replacing the Chinese emperor's role, and insisted that these "edicts" be published in the Peking Gazette (Qi et al., 2014, 7, vol. 67, pp. 2496-2503). Thereafter, foreign embassies in Beijing frequently requested that the Chinese government publish apologies in the Peking Gazette until these publications became a common practice. The aim of the West was partly to ensure that the Chinese emperor and officials accepted the terms through the Peking Gazette, guaranteeing the authenticity and effectiveness of the treaties. Partly the West also intended to use the widespread reach and authority of the Peking Gazette to announce negotiation outcomes to the Chinese public, ensuring their acceptance. Third, the Peking Gazette was intended to be a tool that would publicize the political intentions of the Western powers and create conditions for diplomatic negotiations. Before the Second Opium War, the Qing emperor had sole decision-making power over the Peking Gazette, controlling its content, public scope, distribution channels, and readership. In 1860, however, when Lord Elgin, representing the Anglo-French-American allied forces, negotiated with Prince Kung and demanded that the treaty's signing be published in the Peking Gazette before they would withdraw, Prince Kung was obliged to agree. The Prince also accepted the Lord's requests that "250 copies of the treaty prepared by Prince Kung himself, 1,200 copies of Peking Gazette and five official letters be transmitted by Royal Navy to Chinese authorities in Kwangtung and other coastal provinces" to ensure strict compliance with the treaty rules. 10 These series of events marked the Qing court's cession of part of the decision-making power to the West over the Peking Gazette's content. The prolonged struggle between China and the West in this regard was actually a power contest in information dissemination, in which China was the losing party.

The Western transmission of the Peking Gazette directly impacted the information security of Late-Qing China and became one of the key reasons for the dynasty's downfall. On one hand, as demonstrated by the case of the Eastern Zhejiang Battle, the leakage

of crucial intelligence and the loss of information control resulting from the transmission of the Gazette led to continuous military, diplomatic, and political defeats for 19th-century China against the West. This resulted in repeated territorial concessions and indemnities, further weakening the already declining national strength. On the other hand, the Western transmission of the Gazette broke through the official political information network constructed by the emperor, forming a challenge to the discursive power of the court. This led to domestic public questioning of the imperial authority, plunging the self-proclaimed prosperous era of the Late-Qing dynasty into a crisis of trust. The uncontrollable new armies and continuous local uprisings further destabilized the era. Under the dual threats of domestic and external factors, the Qing government ultimately met its downfall.

#### Causes of information security issues in the Qing empire

The intelligence leak caused by the Peking Gazette, along with the partial loss of control over their information, undoubtedly endangered the information security of the Qing empire. Regarding the issue of intelligence leakage, why did the publicly disseminated Gazette become an indispensable channel for Western countries to obtain crucial intelligence about the empire? We believe that the key reason is China's extreme lack of understanding of the outside world, to the extent of not even comprehending what "foreign countries" meant, resulting in a lack of awareness to prevent information leakage. For the partial loss of control over the Peking Gazette, the key reason lies in the stark disparity in national power, putting China at an absolute disadvantage in its struggle with the West. China's backwardness in the 19th century in terms of information security awareness and overall national strength was ultimately due to its prolonged period of self-imposed isolation. From the perspective of information management or information warfare, the West, which grew stronger through openness, had both a strong demand for external information and effective means to acquire it, while China, weakened by its closure, experienced the opposite.

Entering the 19th century, Western powers such as Britain began seeking larger foreign markets, leading to a surge in demand for various types of information, including Chinese military and political intelligence. Consequently, for Westerners in China, such as missionaries, merchants, and diplomats, understanding various authoritative news from the Qing government became a crucial task, and the Peking Gazette catered to this need. Before the start of translations of the Gazette, the West had long suffered from "inconsistency and contradictions" in knowledge and information about China (Bridgman, 1832, p. 3). The authentic and authoritative nature<sup>11</sup> of the Gazette content perfectly addressed this issue. Additionally, Western powers had been open to the outside world for a long time, and by the 19th century, they had developed a strong intelligence awareness, focusing on collecting intelligence from official publications of various governments (Headrick, 2000, pp. 59-95). Taking Britain as an example, in the 19th century, the British Foreign Office's embassies and consulates abroad were not only diplomatic institutions for maintaining British diplomatic and commercial interests, but also intelligence agencies for collecting information about the host countries. In 1834 it established a Superintendent of Trade of British Subjects in China, 12 with a system where the Chinese Secretary's Office was responsible for collecting information on China and analyzing internal Chinese affairs (Su, 2005, pp. 169-202). It then relied on the Peking Gazette, informants in the Guangdong and Guangxi regions, and its own sinological knowledge to gather intelligence, integrating political intelligence collection into everyday negotiations and espionage (Guan, 2017, p. 301). In the 1840s, the Sino-British Treaty of Nanking and the General Regulations of the Five Ports Opened to

Trade enabled the British to seize Hong Kong and granted them the right to deploy consular officials to five trading ports along China's southeastern coast (The Statistical Department of the Inspectorate General of Customs, 1917, p. 383). With the Superintendent of Trade office and consulates established in Hong Kong and the Southeastern Chinese coastal trading ports, the British Foreign Office's intelligence network extended its tentacles into China. A vast amount of intelligence concerning China's politics, trade, diplomacy, customs, and geography continuously flowed toward Britain through the official dispatches of the diplomatic and consular missions in China. From 1843, the Chief Superintendent of Trade and Plenipotentiary and consuls gradually built a "British diplomatic and consular service intelligence network in China" (Zheng & Zhang, 2021, p. 134). Western countries' understanding of China and their subsequent decisions heavily depended on the intelligence work of their missions and consulates in China. This intelligence became the informational foundation for British planning of commercial expansion in China and formulating policies towards China, as well as for its military operations there.

Before the Opium Wars, the closed Qing dynasty was completely unaware that the content published in the Peking Gazette could lead to information leakage, and they were oblivious to the fact that Westerners were translating and reading these reports. Influenced by the long-standing policy of isolation, the Qing court in the early 19th century was arrogantly self-important and uninformed, considering itself the center of East Asian civilization and focusing solely on domestic life (Fairbank, 2008, p. 8), with no concern for countries outside China. In fact, from the arrival of the Portuguese and Spanish in China, until the eve of the Opium Wars, more than three hundred years had passed, and although the British arrived later, they had been in China for two hundred years by the time of the Opium Wars. However, the Qing rulers still had no clear understanding of these countries. Wei Yuan 魏源 wrote about this, "How can we claim to be vigilant about border affairs when we know nothing about a country with which we have had contact for two hundred years, its location, or its alliances and separations?" (Wei, 1868, p. 4). Therefore, the Qing dynasty was significantly unaware of Western intelligence activities. The government officials remained oblivious for a long time that British missionary Robert Morrison had already published systematic translations and introductory texts of the Peking Gazette; they were further unaware that many missionaries joined the translation efforts afterward. The Qing government initially had no defenses against intelligencegathering activities carried out by Western embassies and Christian missionaries, simply because they did not recognize these as intelligence activities against China. Due to the Qing government's extreme lack of international information security awareness, even though its internal information control system was relatively comprehensive, 14 it could still not prevent information involving state secrets from flowing into the Western world.

Even when the information security risks brought by the transmission of the Peking Gazette to the West were gradually understood, China lacked sufficient governance capacity to address them. On the eve of the Opium Wars, commissioner Lin Zexu 林则徐 reported to the Daoguang 道光 emperor that the British, who had been in Guangdong province for many years and were "cunning", often purchased and scrutinized the Peking Gazette to examine and speculate about the contents (Qi et al., 2014, 1, vol. 8, p. 219). Initially, the Qing court did not take any measure to prevent Westerners from reading the Gazette upon receiving this report. Later, Qiying 耆英 reported again that "British barbarians" were reading the Peking Gazette (Qi et al., 2014, 4, vol. 54, p. 2089), and only then did the Daoguang emperor ordered local governors to strictly investigate those who delivered the Peking Gazette, issuing an edict that said to "punish them according to law and report back" (Qi et al., 2014, 4, vol. 54,

p. 2091). The emperor simultaneously gave his order to cut off the British access to the Gazette from the source. The edict stated, "Anyone who delivers the Peking Gazette to these barbarians is undoubtedly a traitor. They must be sought out, and once captured, interrogated about the specifics of how the gazette was delivered and punished severely" (Qi et al., 2014, 5, vol. 57, p. 2211). The Qing court tried to prevent Westerners from reading the Peking Gazette, thus ordering all departments and localities to "strictly inspect and control" and "strictly investigate those who deliver the gazette to cut off its flow, especially those who copy and distribute it to block its source". Following this edict, officials in the districts of Liangxiang 良乡 and Zhuozhou 涿州 arranged for officers to specially manage this matter (Guo, 1966, pp. 17-18). However, due to the decision-making power and considerable discretion of provinces and localities, the vertical supervision of the Qing court was lax, and horizontal supervision at the local level was ineffective; thus the central directives were not fully implemented. Additionally, the distribution of the Gazette was sanctioned by the Qing court and its channels were diverse. As a consequence, the "strict investigation" was limited to Emperor Daoguang's review of Liu Yunke's memorial and did not see any resulting specific measures. Ultimately, the required "investigation and punishment" ended without any concrete results. It was only after the Qing empire suffered greatly in a series of wars against Western powers in the 19th century and realized the importance of intelligence information that an unprecedented sense of crisis formed, leading to a national emphasis on constructing information security.

#### Conclusion

For the Qing Empire, the Peking Gazette was an important tool for the imperial court to exercise control over the localities and strengthen centralization, as they could disseminate political information from the highest center of power across a vast geographic area at a relatively fast pace. They accurately expressed the emperor's will, allowing local officials and gentries to comprehensively, accurately, and swiftly obtain information on imperial policies. The Qing emperors allowed the widespread dissemination of the Peking Gazette because they never anticipated that Westerners would mine them for intelligence to use against the empire. Indeed, when Contancin in the 18th century sent translations of excerpts from the Peking Gazette to Europe, the China he presented was a nation of high political civilization and ceremonial propriety, a model of civilized wisdom and moral order, even influencing Enlightenment thinkers such as Voltaire. Therefore, it can be said that at this time, the transmission of the Peking Gazette to the West was mainly a form of cultural exchange and did not impact the information security of the Qing dynasty.

The situation in the 19th century significantly differed. The dissemination of the Peking Gazette through Western channels broke through the seemingly powerful and vast information management network established during the Qing dynasty, surpassing the scope of the internally oriented official information network. The transmission itself was not problematic, symbolizing the integration of China with the outside world and reflecting the gradual trend of global openness. However, when the Gazette was employed for military purposes by Western powers, their essence underwent a transformation. Before the Western transmission of the Peking Gazette, the Qing government had complete control over it. However, after its transmission to the West, the integrity of the Qing government's control over the Peking Gazette was disrupted. It began to lose its independent political status, marking a destabilization of the Qing government's rule and the legitimacy of its political power. It should be noted, however, that the translation or Westward dissemination of the Gazette in the 19th century was not solely serving military and

political forces as intelligence. In other Western literature not discussed in this article, there were also diverse introductions and benevolent uses of the Peking Gazette as cultural information.

Viewed in isolation, the policy of isolation and seclusion itself does not necessarily lead to a political crisis; its motivation is to maintain national and cultural security, serving as a defensive selfprotection strategy against external threats (Gao, 2022, p. 17). In a self-sufficient feudal society, isolation often serves as a means for rulers to maintain political stability. However, once commerce and global trade began to develop, the world became an interconnected whole, exposing the drawbacks of this policy. The misfortune of the early 19th-century Qing dynasty lies in its prolonged isolation and lack of awareness of international affairs, leading to a lack of awareness about information security. There was a complete failure to anticipate the serious risk of international leaks of the rich intelligence in the Peking Gazette which had been intended to be disseminated internally. When these risks were exposed, placing the country in an extremely disadvantageous position, the Qing dynasty, facing a significant power disparity with the West, took a series of measures that were destined to be unsuccessful. From a historical perspective, the Qing Empire's tragedy paradoxically heralded a significant boon for the Chinese people. Western transmission of the Peking Gazette, along with its subsequent Western control that infused it with modern media traits, epitomizes China's unintended entanglement in globalization. This challenging journey catalyzed China's march towards modernization, hastening the Qing empire's decline and setting the stage for crafting a new era in Chinese history.

In terms of the thematic focus of this article, the transmission of the Peking Gazette to the West resulted in severe issues with information security and national security for the Qing empire. This crisis in information security is not just a historical problem but also serves as a lesson for the information security development of countries in the present world. First, policies of isolationism and the preservation of national information security through self-imposed restrictions are not viable. Despite the coexistence of globalization and anti-globalization in the current era, globalization is an inevitable historical trend. Some countries currently generalize the concept of national security and choose to be "self-contained" in areas such as the internet and information technology. Such security concepts and methods are destined to be ineffective. The historical fact of Chinese intelligence leakage due to the global visibility of the Peking Gazette objectively confirms this conclusion. Without a global perspective, the ideas and system designs for information security are only temporary expedients. Therefore, facing the complexity of global risks and the practical challenges they bring to national information security governance, countries should align with the trend of globalization. They should strengthen communication and cooperation between nations, actively participate in global security governance, and enhance international security cooperation. This involves establishing mechanisms for mutual trust and cooperation, paving the way for a globally shared and mutually beneficial approach to security, and building a world characterized by universal security, common prosperity, openness, and inclusivity. Second, information disclosure needs to consider its "public" boundaries. Transparency is one of the key aspects of modern democratic governance, essential for achieving participatory and deliberative democracy in the modern era. However, transparency is not without its boundaries. Protecting national security and interests is the ultimate goal of all countries and governments, and matters related to national secrets are generally not disclosed. If information involving national security is completely made public, it could irreversibly damage national security and public interests. Balancing information disclosure and preserving national secrets is crucial. Countries should not

only promote the maximization of information disclosure to achieve the goal of transparent governance but also ensure national security. This involves preventing the inappropriate disclosure of national secrets and maintaining a balance between information disclosure and information security. Therefore, on the one hand, with the evolution of new media technologies, the practice of digital-based information transparency has been intricately woven into the fabric of political, economic, and social frameworks. The mass media, serving as vigilant gatekeepers, plays a pivotal role in championing the cause of transparent governance, fostering the creation of administrations distinguished by their commitment to openness and transparency. Simultaneously, entities tasked with information disclosure must enforce stringent and precise distinctions concerning matters of national security, ensuring that sensitive information is safeguarded through effective confidentiality measures. On the other hand, excessive secrecy should be seen as negative, especially when it leads to superficial security measures at the expense of genuine security measures; these means should be adopted reluctantly only after the failure of conventional political approaches.

#### **Data availability**

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Received: 6 October 2023; Accepted: 29 February 2024; Published online: 08 March 2024

#### **Notes**

- 1 The *Dibao* 邸报 in Chinese history, known by various names such as dichao 邸抄, chaobao 朝报, jingchao 京抄, kechao 科抄, etc., was commonly referred to as the Peking Gazette by Westerners during the Qing dynasty.
- 2 Jesuit missionary Contancin was among the first Westerners to place significant importance on the Peking Gazette. He read a vast number of its articles, excerpted and translated them, and from 1725 to 1730, he provided detailed introductions to the Gazette in three letters sent to Europe (Du, 2001, pp. 189–196, 241–268, 312–339).
- 3 The concept of "information" in this article refers to data, facts, or details that are collected, received, or communicated, which can be used to increase knowledge or understanding about a particular subject, situation, or phenomenon.
- 4 The concept of "intelligence" in this article refers to various types of information about China's politics, trade, economy, geography, customs, culture, etc., obtained by Western countries through public or secret channels, and the various reports, memorandums, etc., written based on this information.
- 5 ISO/IEC 27000:2018 (en). Information technology-Security techniques-Information security management systems-Overview and vocabulary. https://www.iso.org/obp/ui/ en/#iso:std:iso-iec:27000:ed-5:v1:en.
- 6 The Gale Specialty Databases are a renowned series of databases from the American Gale (Thomson Gale) group. The core content of these databases is derived from numerous reference book series published by the Gale group over the course of 50 years. The reference materials in these series are widely recognized as the most authoritative and comprehensive in their respective fields (such as literature, history, business, biographies, etc.) worldwide.
- 7 The political information in this text primarily refers to information generated from state political activities, mainly reflecting the structure, personnel, functions, and procedures of the Qing government institutions. Social information mainly involves the following: matters of direct interest to citizens or other organizations; issues that require broad public awareness or participation; the state of social welfare projects; and emergency plans, early warnings, and responses to sudden public events. Cultural information primarily concerns traditional ancient customs. Economic information arises from economic activities and includes the state's economic policies, long-term planning, major initiatives, and updates and trends in economic development. Military and diplomatic information pertains to the military and wars, focusing on national defense construction, activities of armed forces, and diplomatic and foreign affairs activities.
- 8 Gutzlaff KF, State of China in 1846, FO 17/124, pp. 45–51. https://discovery. nationalarchives.gov.uk/details/r/C4235038; Gutzlaff, Retrospect of the Events during

- 1848, FO 17/153, pp. 36–50. https://discovery.nationalarchives.gov.uk/details/r/C4235067.
- 9 Please refer to "List of the person holding office in China" and "List of officers at Peking in the imperial government" (The Chinese Repository 4(10):473–484 and 12(1):20–33).
- 10 Prince Kung to Bruce. FO 682/1993/86, Nov. 16, 1860. https://discovery.nationalarchives.gov.uk/details/r/C4923659.
- 11 Regarding the authenticity and authority of the Peking Gazette, many Westerners have offered their views. For instance, Cyrus Contancin, one of the first to translate the Gazette, noted that it only published matters related to the emperor, and its reliability and authority far exceeded the "rumors" found in European newspapers (Du, 2001, pp. 267–268). In *The Chinese Repository*, an English journal founded by Western Protestant missionaries in China, a special column called "Journal of Occurrence" was established with the aim of reflecting the actual situation of Chinese people (Bridgman, 1836).
- 12 FO to Napier, Jan. 25, 1834, FO 17/5, London: The National Archives, pp. 1, 8, 10–11. https://discovery.nationalarchives.gov.uk/details/r/C4234918.
- 13 FO to Davis, 28 Feb. 1844, FO 17/85, pp. 59-60. https://discovery.nationalarchives.gov.uk/details/r/C4234999.
- 14 Until the *Tongzhi*同治 era, this remained the case. For instance, *Woren* 倭仁, a Grand Secretary was known for opposing figures like *Prince Kung* 恭亲王 for "pandering to foreigners", was deeply dissatisfied with the secrecy of the *Zongli Yamen* 总理衙门 (Ministry of Foreign Affairs). The *Zongli Yamen* then petitioned to allow him access to the relevant documents, with a special admonition not to disclose their contents. After reviewing the documents, *Woren* also emphasized in his response that he was doubly careful and did not leak any information (Qi et al., 2014, 5, vol. 48, pp. 2021–2022).

#### References

Bridgman EC (1832) Introduction. Chin Repos 1(1):1-5

Bridgman EC (1836) European periodicals beyond the Ganges. Chin Repos 5(4):146-160

Britton R (1933) The Chinese Periodical Press (1800–1912), Kelly& Walsh Limited, Shanghai

- Davisa CN (2011) Michelle Albertb. Using secrecy to fight terrorism? Access, homeland security, and the "mosaic theory" as a rationale for closure. J Media Cultural Stud 25(2):251–259. https://www.tandfonline.com/doi/abs/10.1080/ 10304312.2011.553944
- Deng LJ, Chen L (2022) Di bao ying yi yu wan qing xin xi gong kai hua yu quan zhi zheng (The translation of Peking Gazette and the Sino-West rivalry in late Qing information disclosure). Shanghai J Transl 167(6):3–9. http://shjot2021.shu.edu.cn/CN/abstract/abstract253.shtml
- Du H (2001) Lettres édifiantes et curieuses, écrites des missions étrangères (vol. 3) (Ye su hui shi zhong guo shu jian ji). The Elephant Publishing House, Zhengzhou (trans. Zhu J, Geng S)
- Fairbank JK (2008) Introduction: the old order. In. Fairbank: The Cambridge History of China: Late Ch'ing, 1800-1911, Part 1. vol. 10, Cambridge University Press, Cambridge
- Fuller PB (2017) Mosaic theory and cyberharassment: using privacy principles to clarify the law of digital harms and free speech. Commun Law Policy 22(3):309–350
- Gao X (2022) Ming qing shi qi bi guan suo guo wen ti xin tan (New Research into the Ming and Qing dynasties self-isolation policy). Hist Res 3:4-21+219. https://kns.cnki.net/kcms2/article/abstract?v=2Wn7gbiy3W9PdrUUSCILU 6hEf-njq9MX1belileevrpmO-51M-cAkiC0nlqF6-wwlRcgirJJwwE9IV4XTVr 8iZqCTEUEaemjG\_XzehKEv9JD91QeRN5y2rAilzfCj0Sd&uniplatform= NZKPT&language=gb
- Gray D, Citron DK (2013) A shattered looking glass: the pitfalls and potential of the mosaic theory of fourth amendment privacy. North Carol J Law Technol 14(2):381–429. https://heinonline.org/HOL/LandingPage?handle=hein.journals/ncjl14&div=15&id=&page=
- Guan SP (2017) Yi zhe yu xue zhexiang gang yu da ying di guo zhong wen zhi shi jian gou (Translator and scholar: Chinese knowledge construction in Hong Kong and the British empire). Oxford University Press, Hongkong
- Guo TY (1966) 筹办夷务始末补遗.道光咸丰两朝A supplement to foreign affairs of the Late-Qing dynasty (1821–1861). Institute of Modern History, Academia Sinica, Taipei
- Headrick DR (2000) When information came of age: technologies of knowledge in the age of reason and revolution, 1700-1850. Oxford University, Oxford
- Jaffer J (2010) The Mosaic theory. Soc Res 77(3):873–882. https://muse.jhu.edu/ pub/1/article/527741/summary
- Jin YY, Li GQ (2016) Ying jun zai zhe dong zhan yi shi de qing bao huo dong tan wei (On the intelligence of the British army in the Zhedong Battle). Hebei Acad J 36(6):198-203. https://kns.cnki.net/kcms2/article/abstract?v=2Wn 7gbiy3W-27H1XKfQX7lkTHySnDPnheOYS7PEmRGdLT-V-cfXtI4wWYPO VVGth3-9hTtgUIJyU3owWH2sF0YH-S9Z2ffTbBWfY11BE2ihi2ucFhPsJFq UeQZUAS-b9&uniplatform=NZKPT&language=gb

- Kerr OS (2012) The Mosaic theory of the fourth amendment. Mich Law Rev 111(3):311–354. https://heinonline.org/HOL/LandingPage?handle=hein. journals/mlr111&div=16&id=&page=
- Kuhn PA (1990) Soulstealers: The Chinese sorcery scare of 1768. Harvard University Press, Cambridge, Massachusetts, London, England (trans. Chen J, Liu XY)
- Landor HS (1901) China and the allies (vol. 1). Charles Scribner's Sons, New York Li HB, Chai F, Zhai RR (2023) Kua jing shu ju liu dong de quan qiu tai shi,gui ze bi jiao yu zhong guo ce lüe (Global situation, rule comparison and China's strategy of cross-border data flow). J Int Econ Cooperation 6:30-41+86. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkz4owMth0LTJ-OvIaMgElb40D\_WbWO5UGbg4r6n8CqsQPaQT8CHM2sYyvckZZ5ZaVfj AzFD2NQ5mtYcKKtTW\_VSff7\_wHCtSUnfxS\_Un8tJNw==&uniplatform=NZKPT&language=gb
- Liu WP (2014) Sheng shi bei hou:qian long shi dai de wei gao an yan jiu (behind the prosperous era: a study of forgery cases in the Qianlong period). People's Publishing House, Beijing
- Mayers WF (1874) The Peking Gazette. China Rev 3(1):13-18
- Mei A, Chen ZW (2023) Zheng fu shu ju kai fang zhong de shu ju an quan yin you ji qi shu jie (Data security concerns and alleviation in government data opening). J Intell 42(5):76–85. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkwS3nywC4XD\_JxJcq9At2SX36XrdhQOILcIosHz0Se6WFoqv Bv3tVCE9w64d4MLSG\_QSHf75JUkkUfx4uv0QMKQjiIxKp9U2lQLcr CDfgmo4csVlQ2M4VSd&uniplatform=NZKPT&language=gb
- Mokros E (2021) The Peking Gazette in late imperial China: state news and political authority. University of Washington Press, Seattle
- Morrison E (1839) Memoirs of the life and labours of Robert Morrison (vol.1). Longman, Orme, Brown, and Longmans, London
- Morrison JR (1832) Journal of occurrences. Chin Repos 1(2):78-80
- Morrison JR (1838) Analysis of the Peking Gazettes from 10th February to 18th March 1838. Chin Repos 7(4):226-231
- Morrison R (1815) Translations from the original Chinese, with notes. Honorable East India Company's Press, London
- Morrison R (1821) Foreign correspondence. Missionary Her 17(1):197–198 Pozen DE (2005) The Mosaic theory, national security, and the freedom of infor-
- mation act. Yale Law J 115(3):628-679. https://www.jstor.org/stable/25047621 Qi SH et al. (2014) 筹办夷务始末·道光 Foreign affairs of the Late-Qing dynasty (1821-1850), 1, vol. 8. Zhonghua Book Company, Beijing
- Qi SH et al. (2014) 筹办夷务始末咸丰 Foreign affairs of the Late-Qing dynasty (1851-1861), 3, vol. 28. Zhonghua Book Company, Beijing
- Qi SH et al. (2014) 筹办夷务始末 道光 Foreign affairs of the Late-Qing dynasty (1821-1850), 4, vol. 54. Zhonghua Book Company, Beijing
- Qi SH et al. (2014) 筹办夷务始末·道光 Foreign affairs of the Late-Qing dynasty (1821-1850), 5, vol. 48. Zhonghua Book Company, Beijing
- Qi SH et al. (2014) 筹办夷务始末道光 Foreign affairs of the Late-Qing dynasty (1821-1850), 5, vol. 57. Zhonghua Book Company, Beijing
- Qi SH et al. (2014) 筹办夷务始末:咸丰 Foreign affairs of the Late-Qing dynasty (1851-1861), 7, vol. 67. Zhonghua Book Company, Beijing
- Smith AH (1901) China in convulsion. Fleming H Revell Company, New York & Chicago & Toronto
- Staunton G (1797) An authentic account of an embassy from the King of Great Britain to the Emperor China (vol. 2). W. Bulmer for G. Nicol, London
- Staunton GT (1821) Narrative of the Chinese embassy to the Khan of the tourgouth tartars in the years 1712-1715. John Murray, Albemarle Street, London
- Standaert N (2020) Shi ba shi ji jin ru quan qiu gong gong ling yu de zhong guo di bao (The Chinese "the Peking Gazette" entering the global public domain in the 18th century). Fudan J (Soc Sci Ed) 62(5):2–18. https://kns.cnki.net/kcms2/article/abstract?v=2Wn7gbiy3W99m21Jaz92S54HJvNuMVSY\_pALIr6hb16U7MJxwlNSM51Z-hRsaYp5DJym-cApdJuRacEVcSlqeW\_QVFDeA8irMwdVBEyLFOAZKBwlDrWCGQS8f8lu15B&uniplatform=NZKPT&language=gb
- Su J (2005) Zhong guo kai men ma li xun ji xiang guan ren wu yan jiu (China, open the door! Research on Morrison and related figures). Christian Chinese Religious Culture Publishing House, Hongkong
- The Statistical Department of the Inspectorate General of Customs (1917) Treaties, conventions, etc., between China and foreign states, vol. 1, 2nd edition. The Statistical Department of the Inspectorate General of Customs, Shanghai
- Union S (1875) England's Chinese difficulty. Hawaii Gaz 11(24):2
- Wade TF (1873) Mr. Wade on China. China Rev 1(1):38-44
- Wang HZ (2012) Fan yi shi yan jiu (Studies in translation history). Fudan University Press, Shanghai
- Wang H, Wang L (2014) Jing bao ying yi huo dong zhong de kua wen hua chuan bo ce lüe yu ji qiao:yi zhong guo cong bao wen ben wei li (Strategies and skills of cross-cultural communication in the activities of translating and researching the texts or extracts from the Peking Gazette: the case of The Chinese Repository). Chin J Journalism Commun 36(10):62–81. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkwtOMJKa84fgLhcNiZN0 Yh114aBFJ8mUeReucTp9HB6\_07313zn-RojM8B6tOE50pDmzQTz7GlH8 TMGgaruE3R1zKvhDgTN7zkyoWc0bRVEU5E6PYehexx9&uniplatform= NZKPT&language=gb

- Wei CC, Xiong JP (2021) Ming qing shi qi jun shi xin xi an quan guan li fang fa yan jiu (Research on military information security management methods in Ming and Qing dynasties). J Intell 40(6):45–51. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkwtOMJKa84fgLhcNiZN0Yh1I4aBFJ8mUeRe ucTp9HB6\_07313zn-RojM8B6t0E50pDmzQT27GlH8TMGgaruE3R1zKvh DgTN7zkyoWc0bRVEU5E6PYehexxy9&uniplatform=NZKPT&language=gb
- Wei Y (1868) 海国图志.第二卷 The illustrated treatise on the Maritime Kingdoms (vol. 2). https://ctext.org/wiki.pl?if=gb&res=7&searchu=%E5%8F%A4%E4%B9%8B%E9%A9%AD%E5%A4%96%E5%A4%B7%E8%80%85&remap=gb
- Wells CE (2006) CIA v. Sims: mosaic theory and government attitude. Adm Law Rev 58:845–888. https://heinonline.org/HOL/LandingPage?handle=hein.journals/admin58&div=42&id=&page=
- Wu BY (2015) Ye su hui shi bi xia de qing dai di bao (The Peking Gazette of the Qing dynasty in the writings of Jesuit Missionaries). Ming-Qing Stud 1:368–375. https://kns.cnki.net/kcms2/article/abstract?v=2Wn7gbiy3W-g4iA0CR9pSjrlbBpIdH2VkzkRAZWvRD9I9jERzrnjG1Ko1yjMvtzrWxmxY VILRKWjUOFyZQWqRJLOmHa1AWF\_yOy7CsKJ38iMdi9RqTpq7Q== &uniplatform=NZKPT&language=gb
- Wu NB et al. (2023) Wo guo zheng fu shu ju kai fang de yin si feng xian pan ding ji qi zhi li lu jing yan jiu (Research on privacy risk judgment and governance path of government data openness in China). J Intell 42(11):192–198. https://kns.cnki.net/kcms2/article/abstract?v=78ssZZilu9Y80yqte84fp\_ldshrmPj 3ZhgwfNkQCMOC79QuqMVt6mvnpCxXz8EwwqkHoqsGV21FDDuPi gUh34hcqVs6ZvsdnKxwxg9Yeev\_a1-PM3TA5m4JOGmkShatJ&uniplat form=NZKPT&language=gb
- Xiao DM, Su Y (2022) Wo guo zheng fu shu ju kai fang zhong de an quan feng xian ji qi fang fan dui ce (Security risks and countermeasures in China's government data openness). J Mod Inf 42(6):112-120+131. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkzTYbEnVFbYk6lOjelupEw5x8i3 rWHKeZ78WRP26bqk8fxGACxMygqKqIVXJGDyJUhZXcMJxwefS GIkxVg4t63Gg0CIV35EkOmt7aWMpzuGGggYpN0j\_4hx&uniplatform=NZKPT&language=gb
- Yin WJ (2005) Ye su hui shi yu xin jiao chuan jiao shi dui jing bao de jie yi (Selected translation of the Peking Gazette by Jesuit and Protestant Missionaries). Stud World Relig 2:71-82+158. https://kns.cnki.net/kcms2/article/abstract?v=2Wn7gbiy3W\_INpFxvA\_Wqaatwb\_y5ax8\_t5wsCW9Rl5Lja
  OLMMkL24u34p7SFslluRstnSPRSueTUC8BHJFTtaBPik44F38OpBQLM
  bUAIKPvSlCtWnnSJg==&uniplatform=NZKPT&language=gb
- Zhao Y (2018) Jing bao ying yi yu liang ci ya pian zhan zheng qi jian de zhong ying guan xi (The English translation of the Peking Gazette and Sino-British relations during the Two Opium Wars). Journalism Commun 25(3):112-125+128. https://kns.cnki.net/kcms2/article/abstract?v=2Wn7gbiy3W\_wnxmJ0wzH8cXWhJJBZ2kxWg08X3\_UEY07qo1M4NFY6UIlWU0YnXvOLw3Lh7hpQXVdpnH\_mtZTiiioZbHE-5ppKk0Fgdvr7B87ugM6rFY4jUkDPJygwjgZ&uniplatform=NZKPT&language=gb
- Zheng BB, Zhang ZY (2021) Ying guo zhu hua shi ling guan de qing bao gong zuo yu xiu yue jue ce (1843-1869) (The intelligent deployment of the British Embassy and Consulates in China and the decision-making of the amendments of Sino-British treaties from 1843-1869). Hist Res 2:133-156+222-223. https://kns.cnki.net/kcms2/article/abstract?v=2Wn7gbiy3W8sgAy0mvHIAe g\_PfMagB8MfPNzjILKGC5GaFJBBPc5NWfGahB4\_C8XegPNDnU74LF9WwX0PiO6zb7BatscaVL8y5zFG8D5BGmmX-oTPUFTVeSejZyRqCAB&uniplatform=NZKPT&language=gb
- Zheng WY (2023) Wo guo zheng wu shu ju kai fang de jia zhi mian xiang ji an quan bao zhang (The value orientation of China's governmental data openness and the construction of security guarantee mechanisms). Adm Reform 9:70–80. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkzu3-YF41AvNR42QBbwdGNSieiLCQmW5zeZFkygkcRpUyu-GqQ4cioSLgLONC-T2EwaMZAlmxtz5lEIXbTilwJbM8hC1X7UFoMMB7vUk\_Sb2r6 yIMW9Exwa&uniplatform=NZKPT&language=gb
- Zhu LH (2019) Yan yu bu tong, xun wu bie gu:qing dai qian zhong qi zou zhe zhi "yi xun" kao cha (A study of "Yixun" in shipwrecks rescue during early and middle Qing period). J Sichuan Univ 5:128–135. https://kns.cnki.net/kcms2/article/abstract?v=ebrKgZyeBkwUwsUOJYa0HjYKV97\_yjr9lqQSY256IIWm K4Os-ou-Jgzw0L5\_ILqOrZfxesnC-v7qW1uv6kshpmno9Ey1aLOGBfV0J-pNSTgi1xPfDqd3qZCVlAVjskY-&uniplatform=NZKPT&language=gb

#### **Author contributions**

LC (first author) described the proposed framework and wrote the whole manuscript and implemented the simulation experiments; LJD (corresponding author) collected data and revised the manuscript. All authors have read and agreed to the published version of the manuscript.

#### **Competing interests**

The authors declare no competing interests.

#### **Ethical approval**

This article does not contain any studies with human participants performed by any of the authors.

#### **Informed consent**

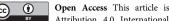
No informed consent was needed as this study did not include human subjects.

#### **Additional information**

Correspondence and requests for materials should be addressed to Lianjian Deng.

Reprints and permission information is available at http://www.nature.com/reprints

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing,

adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/ licenses/by/4.0/.

© The Author(s) 2024